The barometer No. 430 of his construction has accompanied me during my last expeditions through forests and over mountains, and in my boat navigation of impetuous rivers; and on my return to London I found, on comparing it again with the barometer at the Royal Society, that, in spite of all the severe trials to which it had been exposed, it had not varied. On previous expeditions I have used Troughton's, Englefield's, and Newman's barometers, and though every precaution was taken with them, I never succeeded in bringing any one of these instruments safely back to the coast regions.

The all-interesting question in physics, terrestrial magnetism, was not neglected during my journeys in Guayana, and I found opportunities for vibrating a pair of Hansteen's needles (the use of which Colonel Sabine, R.A., had kindly procured me*), at 17 stations, extending N. and S. from the 8th to the 1st parallel N. of the geographical equator, and from the 56th to the 62nd meridian W. of Greenwich. The magnetic inclination, and chiefly the declination, were likewise ascertained in many instances.

I have now drawn attention to the general results of my exploring tours; many of the elements collected remain in their crude state, my active life not having permitted me as yet to turn them to account, but I trust an opportunity will be afforded me for working up these materials, in order to advance our knowledge of the physical geography and natural history of Guayana, as also of MAN, chiefly as he is exhibited in the few remains of the aboriginal races, thinly dispersed over many hundred thousand square miles, and fearfully hastening, as by a divine decree, to complete extinction.

II.—*Memoir of the South and East Coasts of Arabia.* By Captain STAFFORD BETTESWORTH HAINES, I. N.

Part II.

HAVING, in Part I. of my Memoir of the South and East Coasts of Arabia,† attempted a description of that part which had been minutely surveyed as far as Misenát, I commence from thence, trusting that, though all parts of the coast are not actually laid down by survey, I shall be able, from my knowledge and experience of the localities of the different points, to give some useful information to the mariner and to the geographer; and, in so

* They are the needles L (*a*), L (*b*), mentioned in Table LII. of the Magnetic Survey of Great Britain, and worth their weight in gold.

† Journal of the Royal Geographical Society, ix. 125.

SURVEY

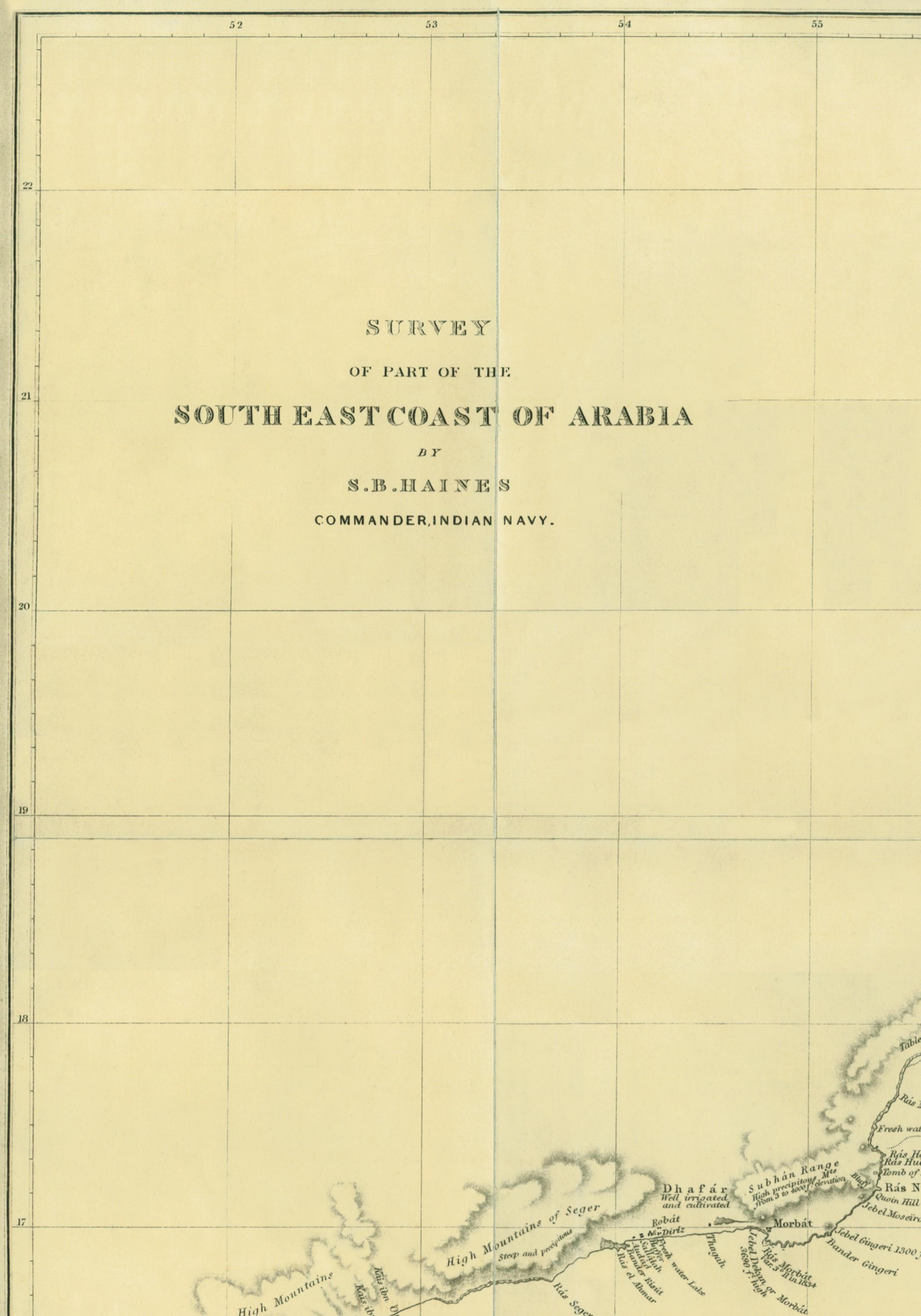
OF PART OF THE

SOUTH EAST COAST OF ARABIA

BY

S.B.HAINES

COMMANDER, INDIAN NAVY.



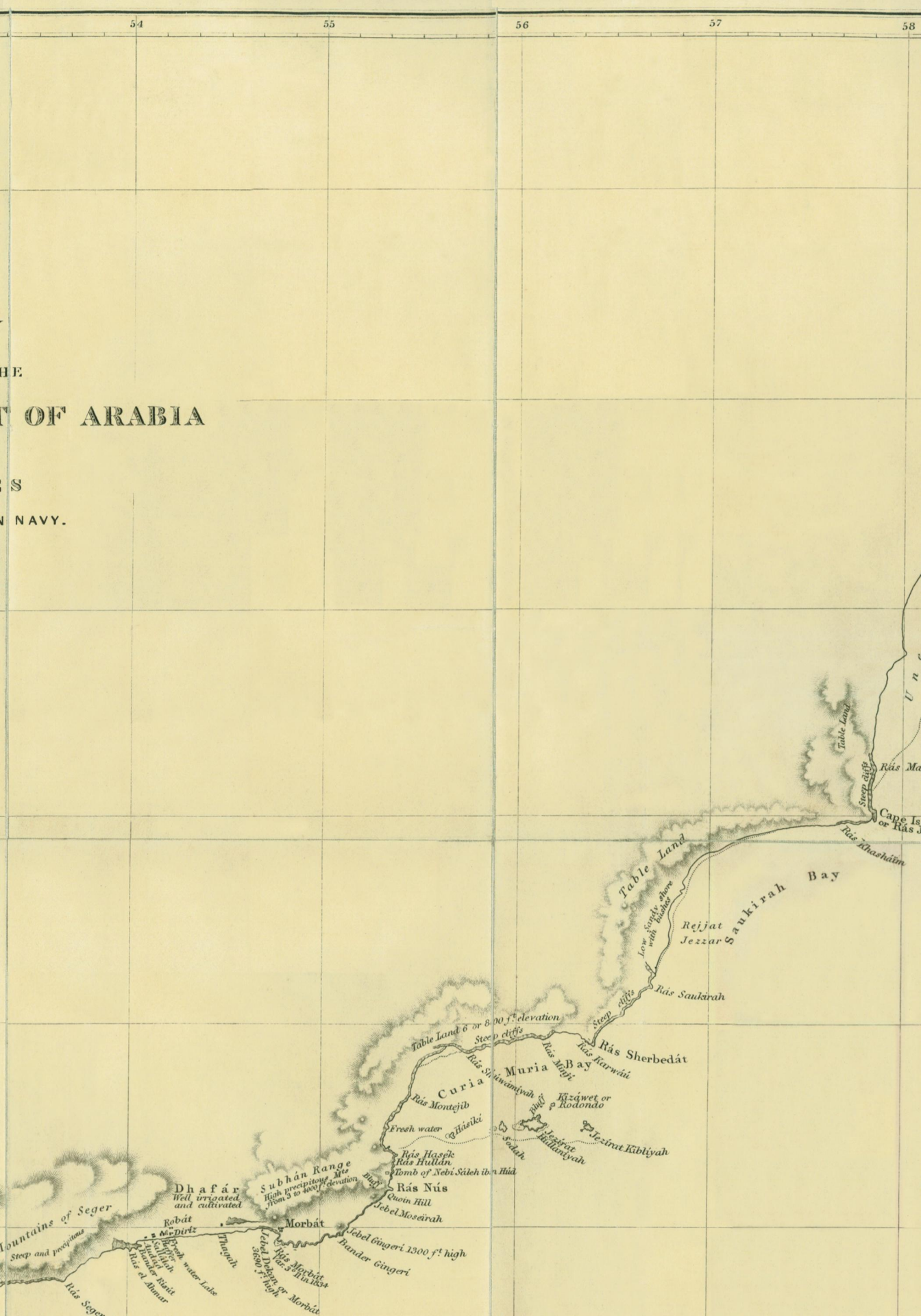
54 55 56 57 58

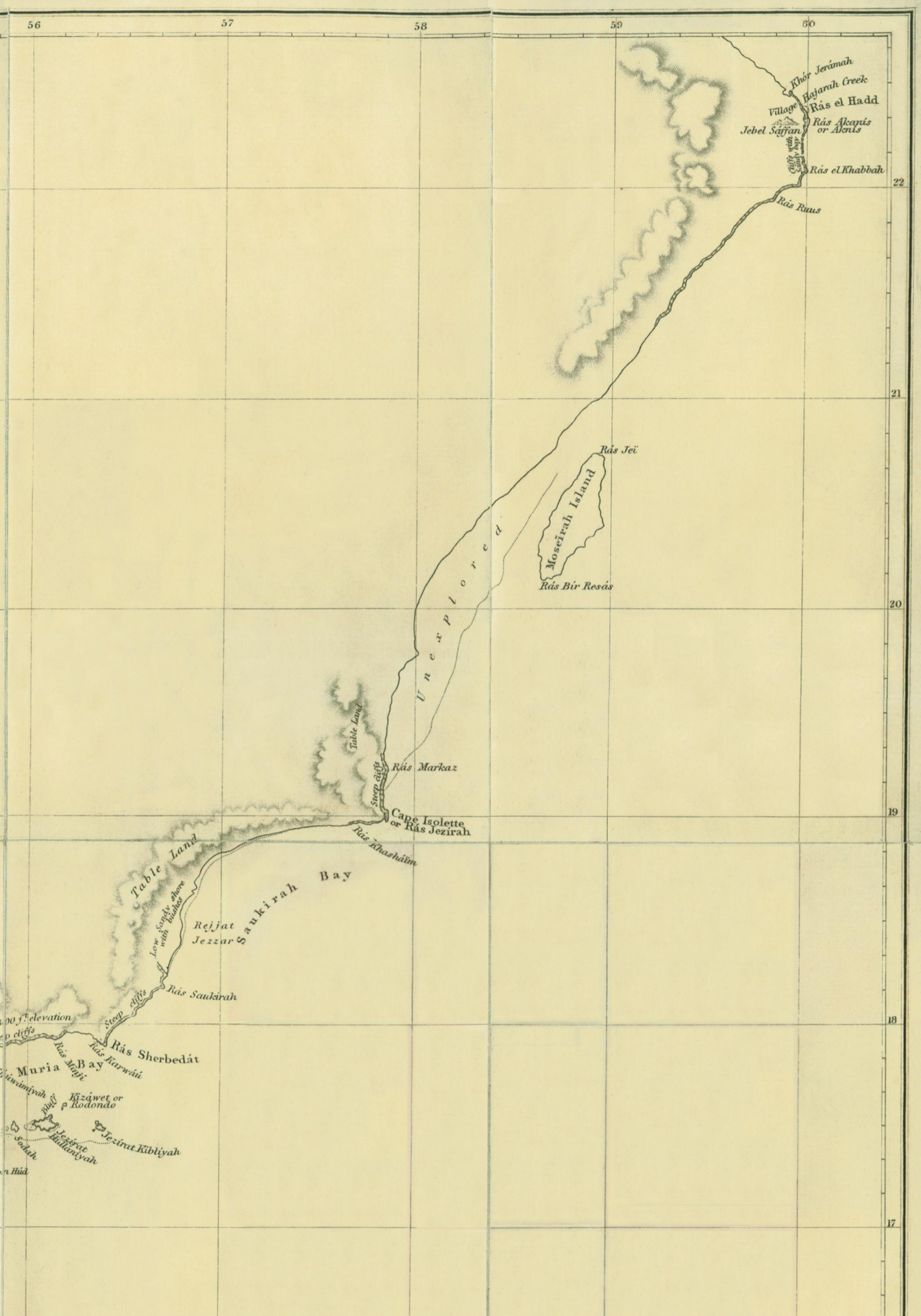
HE

T OF ARABIA

ES

N NAVY.




56
57
58
59
60
22
21
20
19
18
17
Khór Jerámah
Bajarah Creek
Village
Rás el Hadd
Jebel Sáffan
Rás Akarás or Aknís
Cliffs with Sandy beach
Rás el Khabbah
Rás Raus
Rás Jeï
Unexplored
Moseirah Island
Rás Bir Resás
Table Land
Steep cliffs
Rás Markaz
Cape Isolette or Rás Jezírah
Rás Khashâïm
Table Land
Low Sandy shore with bushes
Rejjat Jezzar
Saukirah Bay
Rás Saukirah
Steep cliffs
00 ft. elevation
cliffs
Rás Sherbedát
Rás Karwáï
Rás Mâsfi
Muria Bay
Kizáwet or Rodondo
Bluff
Jezírat Hallániyah
Jezírat Kibliyah
Hiâ

SOUTH EAST COAST OF ARABIA

BY

S.B.HAINES

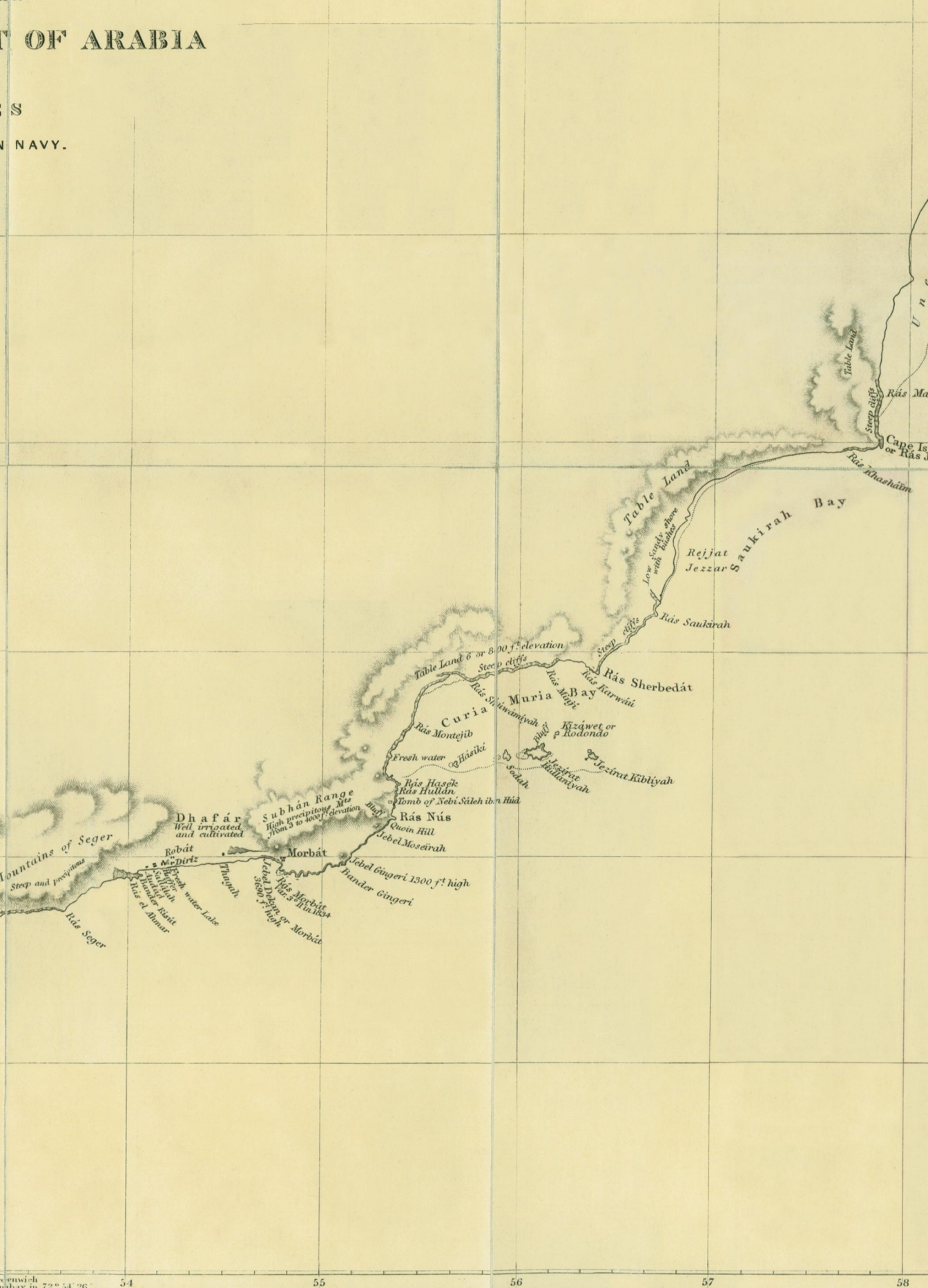
COMMANDER, INDIAN NAVY.

Pub.d for the Journal of the Royal Geograp

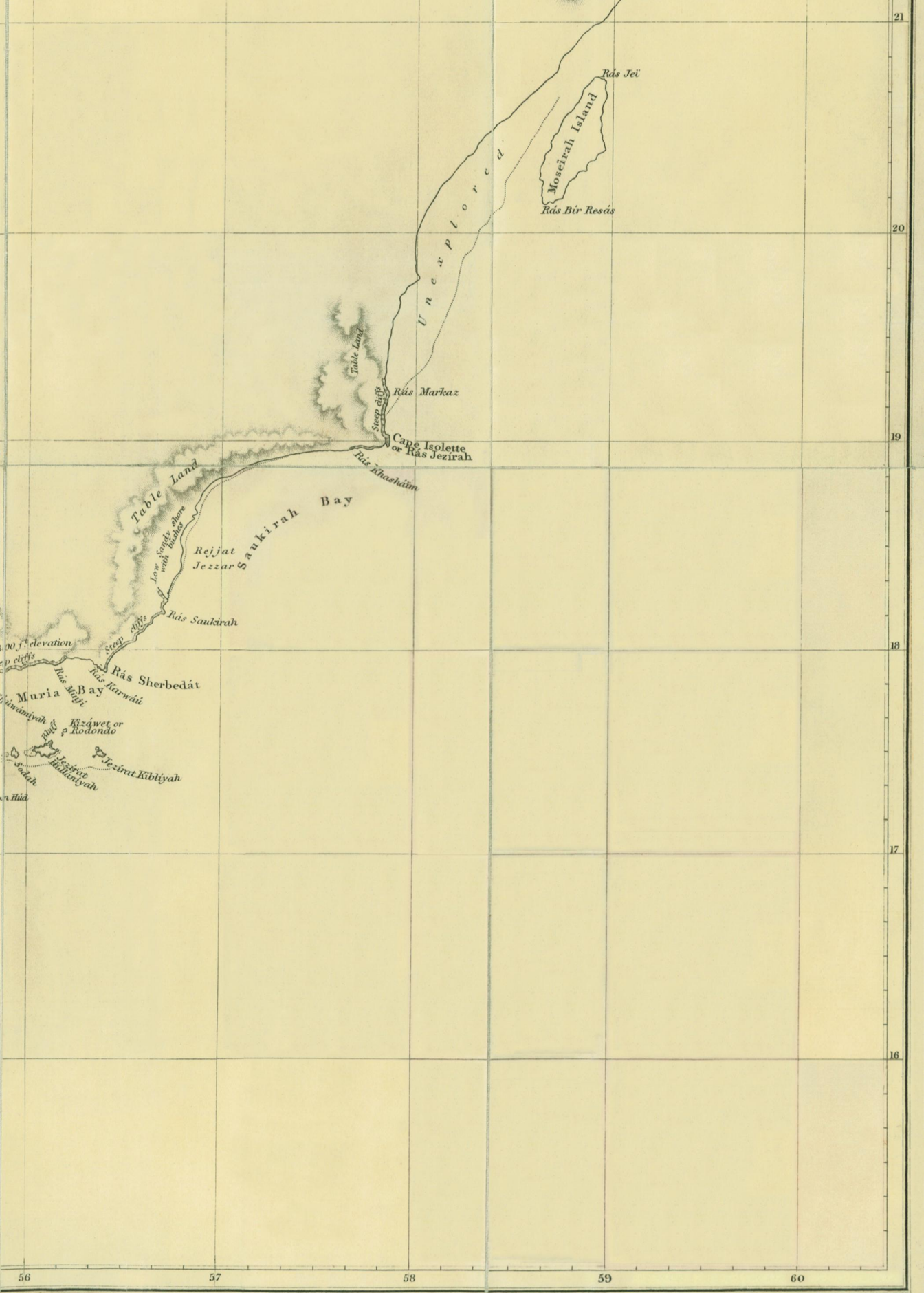
T OF ARABIA

S

N NAVY.



Pub.d for the Journal of the Royal Geographical Society, by John Murray, Albemarle St. London 1845.



iety, by John Murray, Albemarle St. London 1845.

J. & C. Walker Sculp.

doing, I can only again offer my sincere thanks to the officers of the Indian Navy mentioned in the note,* whose utmost zeal and exertions, united with every friendly and good feeling, were always rendered throughout our long and fatiguing cruises.

Wádí Masílah.—A large and extensive valley, forming the line of communication between the sea-port towns and the province of Ḥadramaut. It commences in 15° 25′ N., and 50° 55′ E., having on its W. side the high range of mountains called Jebel Asad. The valley is well watered by running streams, and the villages and palm-groves are numerous. The inhabitants are of the Mahrah tribe.

Sihút.—A town which from the sea looks large, but on visiting it the greater part of the buildings are found to be in a dilapidated state. It is 15° 12′ 30″ N., and 51° 19′ E. Its population varies from 300 or 400 to 2000, according to the trade and season. The town and district are under the government of Sheïkh 'Alí Bakrít. The people are of the Mahrah tribe. Considerable intercourse with the interior is carried on through Wádí Masílah, and the following distances may be relied upon as the length of journey for a camel laden with merchandise, viz. :—

Sihút to Terím	8	days.
„ Shibám	8	„
„ Do'án	12	„
„ Wádí Aḥmed, an extensive valley, abounding in villages and cultivation	12	„
„ El Gharfah [Ḳarfah]	7	„
„ Tehrín	8	„
„ Ghassam [Ḳásim]	8	„

The traders of Sihút have about thirty large and small vessels belonging to them, with which they carry on a lucrative trade in grain along the coast. At other times their smaller vessels are employed in shark-fishing, from which they derive considerable profit. The fins and tails of the shark, after being dried, are sold at Makallah, or Masḳaṭ, and ultimately are sent to China *viâ* Bombay. The scattered stone-buildings in the neighbourhood of Sihút have been erected as places of defence against small arms; and the revenue collected and secured by the local governor, Sheïkh 'Alí, but rarely finds its way into the coffers of the Sulṭán, whose residence is at Ḳeshín.†

The anchorage is an open roadstead; and the bank of soundings extends seawards to a considerable distance, having 21 fathoms at 6 miles off-shore, with regular decreasing soundings as land is approached.

* Lieut. (now Commander) Sanders, Lieutenants Jardine, Shephard, Ball, Rennie, Cruttenden, Stevens, Barrow, A. Grieve, Dr. Hulton, and Mr. Purser Smith.

† Spelt Gheshen, and probably pronounced Geshén by Capt. Haines.

Proceeding eastwards, the first cape, or rather projecting point, is called Rás Aghrib,* a high, red, sloping point, having 16 fathoms about 2 miles off. Between this cape and Rás Ḥaṭṭáb † there are three bluffs, nearly equi-distant, with small sandy bays between them.

Rás Ḥaṭṭáb ‡ is a piece of land, moderately elevated, terminating in a low point, in 15° 21′ N., and 51° 36′ E., which forms the western boundary of Bander Libán.§

Immediately eastward of Rás Ḥaṭṭáb, and close to the beach, in the centre of the bay, is situated a town named Ḥaṭṭáb, containing about 100 houses and three mosques,—the western one having a minaret. To the W. of the town, about 1 mile, there is a grove of date-trees, and to the E. there is a well. The town contains a population of about 400 souls, and is under the government of Ḳeshín, or Ḳesheïn.

Bander Ḥaṭṭáb, or Libán, is a deep bay, situated immediately to the W. of Rás Sharweïn, having regular soundings, and affording shelter against strong easterly winds. With a fresh sea-breeze, there is a considerable surf on the beach.

Rás Sharweïn is a high dark point, having two remarkable peaks on its summit (commonly called by seamen "Asses' Ears"). This mountain gradually decreases in elevation towards its southern extreme, which is in 15° 19′ N., and 51° 46′ 30″ E. This cape forms the western side of Ḳeshín Bay.

The town of Ḳeshín, or Ḳésheïn, in 15° 24′ 50″ N., and 51° 49′ E. (frequently called Ḳisín), is a miserable straggling village near the sea, in the centre of a bay formed by the projecting points of Rás Sharweïn and Rás Derḳah. ‖ Some of the houses are built of stone and mud, two stories high: the others are of cajans,¶ bamboos, and mats. At this village resides the principal chief of the Mahrah tribe, Sulṭán 'Omar ibn Tawárí, who assumed the supremacy after the death of his brother Seyyid ibn Tawárí, the lawful heir, Aḥmed ibn Seyyid, being too young to govern.

Having, in the execution of the commands of the Bombay Government, had opportunities of judging of the character of this chief of a once powerful tribe, I must digress a little from my subject, as it will not only enable me to give an insight into the character of a proud and remarkable Arab chieftain, but also afford an opportunity of explaining circumstances regarding

* Rás Aghrab, Western Cape, or 'Aḳáb, *i.e.* Eagle, according to M. d'Abbadie (Bulletin de la Société de Géographie, xvii. 134).
† 'Atáb (D'Abbadie).
‡ Cape Woodman.
§ Or Lubán (Olibanum). Port Frankincense.
‖ Vulgarly pronounced Dergeh (D'Abbadie, l. c. p. 154).
¶ Dolichos Katjang (*i.e.* Káchang, the Malay word for pulse).

which, a publication on Soḳoṭrah, by my assistant, the late Lieutenant Wellsted,* of the Indian Navy, appears to have caused an erroneous impression.

In the beginning of 1834, I received the commands of the Bombay Government to survey the Island of Soḳoṭrah trigonometrically, and immediately left Rejjat Jezar, and stood down to Morbát, to ascertain who, by hereditary right, held legal tenure of that island. Having been successful in my inquiries, I set sail for the anchorage under Rás Derḳah, and from thence immediately opened a communication with Sulṭán 'Omar ibn Tawárí at Ḳeshín. After presenting a few trifles to the Sulṭán and his nephews, 'Abdu-llah and Aḥmed, I received a written document, properly signed and sealed, granting me full permission to examine all harbours, &c., on the island.

Having received this, I weighed anchor, and in 3 days reached Tamaríd, in Soḳoṭrah, when I soon found myself on friendly terms with the peaceful inhabitants of the island. My first duty as a surveyor, was to commence in such a manner as to be certain of completing the survey in every branch, and having the chart draughted within the time granted to me by Government; and as the kindness of Rear-Admiral Sir Charles Malcolm left me to judge of the practicability of examining the interior of the island, I availed myself of it, knowing how anxious the Government has ever been for the advancement of geographical knowledge.

I decided, therefore, that, while I conducted the trigonometrical survey of the island, my assistant should travel leisurely through the interior; and, to assist him, I ordered Mr. Midshipman (now Lieutenant) Cruttenden, who understood the Arab language and character well, to accompany him.

Having executed the commands of Government within the time specified, I forwarded a fair copy of my survey, with my own observations on its anchorages, and those of my officers during the cruise, consisting of papers from my assistant, Lieutenant Wellsted, the late Dr. Hulton, and Messrs. Cruttenden and Smith. It will therefore be evident that Lieutenant Wellsted was only a subordinate officer, acting under obedience to my orders.

A direct communication by steam being the anxious object of the Supreme Government of India, it was considered probable that Soḳoṭrah might answer as a depôt. I was, consequently, sent on a mission to Ḳeshín to obtain the island by purchase.

* Capt. Haines was probably not aware that poor Wellsted was what the French call a *tête exaltée:* on that account, every allowance must be made for his many defects. He borrowed from every one he met, but did not know how to digest the materials thus raked together.—F. S.

On arriving there, I dispatched Lieutenant Wellsted on shore to inform the Sulṭán of my arrival, and to ascertain when it would be convenient for him to see me. The reply of the chief was "To-morrow;" and I accordingly went over, accompanied by Lieutenant Sanders, Dr. Hulton, Messrs. Smith and Rennie. We were ushered into the house of Sulṭán 'Abdu-llah, with whom we found Sulṭán Aḥmed, the rightful heir, a lad of about eighteen years of age. The chief Ḳází* then made his appearance, and the nephew 'Abdu-llah, having retired for a few minutes, returned leading in his uncle, Sulṭán 'Omar ibn Tawárí, who is totally blind, about fifty years of age, though apparently more, from bodily deformity, his stature not exceeding 5 feet, 3 or 4 inches; his head is large, with a round forehead; his eyes very disgusting, the eyelids hanging down so as to leave the dull, filmy eye visible and protruding; his voice is strong, and in manner he was extremely frank and energetic.

After the usual salutations and polite inquiries after each other's health, he begged us to be seated on a carpet, and after a minute's pause, said—"I wish I could see you. Your voice is young and strong. Have you been long away from your home?" I replied—"I have served my Government for many years; and have now the pleasing duty of informing you that I have been honoured by receiving its commands to thank you for your liberal kindness last year, and to assure you of its friendship: also to explain to you its wishes on some important points, as soon as we shall be alone." The room was cleared in an instant, with the exception of the Sulṭán's family, and the Ḳází, when I was desired to express my wishes freely.

I explained to him that to carry on steam-communication between India and England, a depôt under British control was requisite; and that, consequently, I was commissioned by Government to purchase Soḳoṭrah from him. I pointed out its inutility to him, and the advantages he would derive from disposing of it to the British nation for a sum of money; and also explained the advantages that would be secured to his people by trading with the island when under the British flag: in fact, I described the advantages arising from the sale of the island in as glowing terms as I possibly could. He listened calmly and attentively. The crafty 'Abdu-llah also appeared deeply interested; whilst Aḥmed's idiotic countenance exhibited a careless indifference to what was said. The Ḳází listened in silence.

A few minutes' consideration sufficed to enable Sulṭán 'Omar to decide upon his reply; and he commenced by complaining that the British had promised that his boats and men only were to be employed in coaling steamers; whereas the Bengal steamer

* Judge.

was otherwise assisted, to the injury of himself and people. I told him that the duty I came on, if successful, would annul all former agreements; when he, to evade the point of transfer, asked me where I intended to go after leaving Ḳeshín. I replied that my cruise would chiefly be influenced by his decision with respect to the transfer of Soḳoṭrah by sale, to the British.

After a pause, he said, in a firm and decided manner—"Listen, Captain Haines, and I will give you an answer. As sure as there is an only God, and He in heaven, I will not sell so much ground" (making a span with his fingers). "It was the gift of the Almighty to the Mahrahs, and has descended from our forefathers to their children, over whom I am Sulṭán." I pointed out to him that the island was conquered by his tribe after its evacuation by the Portuguese; that it was so widely separated from him that its value could not be compared to what I was prepared to offer; but hastily interrupting me, he exclaimed—"'Aná má yá'thí * (I will not give) so much ground (confining his span to 2 inches); but I am ready to abide by our former treaty."

Determined to leave this resolute old man on good terms, and not being desirous of prolonging so unsatisfactory a visit, I rose, and in a laughing manner said—"Well, Sulṭán 'Omar, since your determination of 'Aná má yá'thí has not been very long considered, either for your own benefit, or with the consent of the elders of your tribe, I will return to my ship, and remain some time, to enable you to consult with your family and friends on the advantageous offer I have made on the part of the British Government."

On my repeating the Sulṭán's expression, "'Aná má yá'thí," a general laugh ensued, and we parted apparently the best friends.

Several letters passed between me and the Sulṭán afterwards, on the subject of the transfer; but he remained firm to his first decision, and no argument that I used could induce him to waver.

The character of this old chief I admired: a cripple, and deprived of his eyesight, he never forgot that he was the patriarch of his tribe—and avarice (that Arab vice) failed to tempt him to barter his birthright for money. He evinced no anger throughout; was polite, but firm; telling me that he knew we could take his country by the strong arm, but that he believed our principles of justice would not permit us to do so. On parting he said—"God is witness we have both endeavoured to fulfil our respective duties: you, to your Government; and I to my tribe, as their father. Farewell."

* Probably for Aná má U'áṭí, and remarkable as giving the sound of *th* to the letters ṭá.—F. S.

Having thus totally failed in the purchase of the island, I stood over to Soḳoṭrah, and assisted in landing the troops sent from Bombay to protect the coal.

I have made this digression, and introduced Soḳoṭrah, merely in justification of myself and other officers under my command; Lieutenant Wellsted having introduced my name erroneously into his work. He published my Vocabulary and Meteorological Register, and stated other matters so as to make it appear that he was the principal throughout. To the late Dr. Hulton, and Lieutenant Cruttenden, I.N., he was much indebted for information never acknowledged; and an extract from his official letter to myself, dated 18th July, 1835, upwards of a year after Soḳoṭrah was surveyed, will sufficiently show what aid I derived from him:—

"I send the working chart, which I should feel greatly obliged if you would cause some one to trace off, and send back. You will at once perceive it is but a poor specimen of chart-making. It is the first I ever made—or rather, I may say, attempted to fill up."

The chart here alluded to consisted of only a few calculated distances, which I had put on paper so that Lieutenant Wellsted might lay down the soundings of the channel between the Abyssinian coast and the "Brothers,"—which, I regret to say, he did incorrectly.

But to return to Ḳeshín. That village has a paltry bázár, kept by a few Banians; and the whole population does not exceed 300 or 400 souls, who possess two or three trading boats, and ten smaller fishing-boats.

During the strong north-easterly monsoon, the surf on the beach in Ḳeshín Bay is so high, that landing from ships' boats is at times dangerous; but the native fishing-boats, which are sewn together and have almost a flat floor, pass through the surf in safety, and are hauled up immediately after the fisherman's daily toil is over. Trading-boats land their goods in the N.E. monsoon at a small nook immediately to the W. of the precipitous cliff, called Rás Derḳah, the eastern point of Ḳeshín Bay. During the S.W. monsoon a swell rolls in to the Bay, unless close in, on the Rás Sharweïn side. The soundings all over the bay are tolerably regular, with good holding-ground in 6 to 10 fathoms. The surrounding coast is low, and sandy near the sea, having a high range of hills of a dark hue in the background, with a barren tract of undulating sand-hills intervening.

The country on this part of the coast is extremely barren; in fact equalling in sterility the desolate appearance of the Arabian coast on the south side of the Persian Gulf. To the inhabitants,

it has one recommendation: fish, which is plentiful, and of excellent quality, forms the staple article of their food, and in a dried state, is given to their cattle.

The Mahrah tribe is, even at the present day, numerous and powerful; its territory, with some few exceptions, extending from Misenát to Rás Sejer, near Ḍhafár. This tribe is, however, subdivided into different branches, under distinct chieftains, the principal of whom are these:—

Sulṭán 'Omar ibn Tawárí, the representative of the reigning family.

Isá ibn Mobárek ibu 'Alyán ibn Kaïshát, chief of Farṭák.

Sayid 'Aḳil ibn Aḥmed ibn 'Abdu-llah ibuu-l Hussaïn ibn Sheïkh Abú Bekr, chief of Jaïzer.

Sheïkh 'Alí Bakrít, chief of Sihúṭ.

Principal Sub-divisions:—

The sub-divisions of the Mahrah tribe, Beït 'Efrít, are—

Beït Zehád	Beït Aḥmed
„ Húshí	„ Jeïzát
„ 'Arfát	„ Safáï
„ Kaïshat	„ 'Alyán
„ 'Osmán	

Of these sub-divisions the most numerous are Beït Zehád, the sheïkh of which is Muḳaddam Ḥussaïn, Beït Aḥmed, and Beït Kaïshát. These have the greatest weight in the councils of the tribe. There are three Sayyeds * residing at Sihúṭ, who have some influence from their holy descent and superior abilities.

On great political points many of the elders are consulted; and I know that at one time they meditated the removal of the British troops from Soḳotrah by force, but were prevented by 'Isa ibn Mobárek, who strongly protested against such folly, and refused to allow his boats to carry the Bedouins over to that island.

The religion of the tribe is, of course, Mohammedan, and some of the more educated among them are scrupulously attentive to its tenets. The poorer classes show great indifference to it, and many are unable to repeat the prescribed forms of prayer. Their males are circumcised just before marriage, frequently not till they are twenty years of age. Their long bushy hair is then frequently shaven, and replaced by a turban, if they can afford one; if not, their hair is gathered together so as to form a round knob at the back of the head; and the head is generally encircled with frequent folds of the "Fatílah," or match prepared for their matchlocks, which are manufactured in Ḥadramáut.

A short sword of inferior workmanship, and the never-failing yanbe', or crooked dagger, gaily ornamented with silver, and frequently with gold, complete their accoutrement.

* Or sherífs, *i.e.* descendants of the Prophet.

Their males in person are light and active, of middling stature, with well-knit limbs. They are crafty, extremely hardy and bold. Their dress is a turban with a blue ground and white stripes, and a coarse dark blue waistband with loose folds in front, one end passing over the shoulder and back, and the other hanging down the right side. Their skins are deeply dyed with the indigo from their clothes, which are seldom, if ever, washed.

When I was received by Sulṭán 'Omar ibn Tawárí, he wore a sidiríyah or waistcoat of Kimkháb* over a blue tóbó† or shirt. The natives belonging to this tribe are, generally speaking, when young, very good-looking, especially the females; but, as with the males, their skins are discoloured by the dye from their dress, which is composed of blue cotton, and forms their only garment. Their hair is plaited with silken thread, and hangs down in long tresses over their shoulders; their only ornaments are ear-rings and armlets. They apparently pride themselves on the antiquity of their tribe, claiming a descent from the tribe of 'Ad ibn Aus ibn Irem, ibn Shám (Shem) ibn Núḥ (Noah). Sheddád ibn 'Ad, in the arrogance of his heart, built the famous palace and gardens of "Irem Dhátu-l 'imád;"‡ but, on preparing to take up his residence there, he and his followers were destroyed by a storm of wind from heaven, and the palace for ever hidden from mortal eye, till a man named Ibn Kelábah, in searching after a lost camel, caught a glimpse of it, and, entering, carried off a jewel, which was presented to the Khalífah Mo'áwíyah ibn Abú Sufyán. From that period, the palace again became invisible. The remnant of the Adites, on professing the faith of Islám, were spared, and Arab tradition makes them the parents of the tribes inhabiting Ḥadramáut and the Land of Frankincense. It is worthy of remark that the language now spoken by this people is an unknown tongue to the other Arabs—harsh, guttural, and apparently uttered with difficulty. It has been supposed, with great reason,§ to be the remains of the ancient Ḥimyarí language.

Rás Derḳah ‖—A bluff, precipitous, and sharp point in 15° 26′ 39″ N. and 51° 55′ 10″ E., about 300 feet high, may always be known by having the low sandy bay of Ḳeshín westwards, and the

---

* Damask-silk. † Properly thaub, *i.e.* garment.

‡ 'Irem adorned with lofty buildings' (Ḳorán, lxxxix. 6; Sale's Koran, ch. lxxxix. p. 490, 4to. ed.). Dhátu-l 'imád was added by Mohammed to make a rhyme with 'Ad.

§ Jauharí, in the Ṣaḥáḥ (Ván-Ḳúlí, *i.e.* the Turkish version of that dictionary, i. 359), quotes this Arabic proverb:—'Let the man who enters Ẓafár Ḥimyarise,' *i.e.* speak the Ḥimyarí language. It is called Iḥkilí by M. Fresnel, who gives an interesting account of it in the 'Journal Asiatique,' iii. vi. 79. See Pococke's Specimen Hist. Arabum, p. 151; Ḳámús, Turkish Version, i. 277, 829; Ván Ḳúlí (Turk. Vers. of the Ṣaḥáḥ), i. 121, 359. The Turkish translator says, that the Ḥimyarí substitutes *m* for *l* in the article, and for *n* in the determinative particles.

‖ Pronounced Dergah, or Dergeh (D'Abbadie, l. c. p. 134).

equally low sandy coast extending as far as Rás Farṭák eastwards. The strata of the cliff are as follows, beginning from below:—

No. 1. Secondary limestone, forming a foundation for the more distinctly stratified masses above. The outer surface rendered cellular by the action of the sun and air, with sharp irregular points. The colour internally differs, some specimens being nearly white, some cream-coloured, others variously tinged by the presence of the oxide of iron. Large caves are formed in its substance by the violence of the waves dashing against its base. Some portions of it have masses of flint imbedded.

No. 2. White shell limestone, pretty compact internally, but externally, in consequence of the decomposition of the shells, porous, and full of minute cavities.

No. 3. Common grey limestone, the tint becoming gradually lighter as it approaches the layer No. 2. The layer above this appeared to consist of puddingstone, and those above that again had a different appearance, some seeming to be slaty, others to consist of sandstone, and the uppermost part of the cliff appeared to be nothing but loose stones, sand and gravel. The dark patches on the summit of the cliffs are excavations in its substance, in parts of which were found large masses of rounded limestone, imbedded in a matrix of the same nature. In it we also discovered a few fossil remains of shells (one tolerably entire). The cliffs from the verge of the cape extend about 2 miles westwards, when they suddenly turn northwards, and form two or three slight bends: and to the N.E. of the cape, there is a sunken rock some distance off-shore. The cliffs continue in a N.E. direction till they meet the sandy beach, which runs in an E.S.E. direction to Farṭák.

While communicating with Ḳeshín during the N.E. monsoon, I invariably anchored in 6 or 7 fathoms, sandy bottom, with Rás Sharweïn S. 54½° W., Asses' Ears S. 66° W., the town of Ḳeshín W. 3° S., Rás Derḳah N. 83½° E., all true bearings. I also made it one of my well-fixed meridional points for cross measurements to other places.

On the low shore between Rás Derḳah and Rás Farṭák are the villages of Ḳadífat,* Kesíd, Wádí Kerbrát, Saghar, Hasweïl,† and immediately under the south-west part of the mountain of Farṭák lies the village of Saïf, or Kersah. Most of the villages have some stone buildings, and a small plantation of date-trees in their vicinity. One or two of them are situated a short distance inland. To the south of the village of Hasweïl there is a small pyramidal hill. The villages of Ḳadífat and Kesíd are under Ḳeshín, and those to the east of them, are subject to Sheïkh 'I'sa

* Commonly pronounced Godífat.

† Hesweïr (D'Abbadie, l. c. p. 134).

ibn Mobárek, chief of Farṭák. These villages may, in all, contain a population of 2000 souls, whose principal food is fish, millet,* bread, and dates. They are poor, but well armed, and ever ready to resent an injury. The latter was proved by the people of Wádí seizing a Pór-bander boat under English colours, in retaliation for the release of a number of their slaves by the persons in authority at Pór-bander.

The soundings along this coast are regular, but shoal-water extends for a considerable distance off the shore. A vessel wishing to anchor off any of these villages can choose her own depth from 10 to 6 fathoms, but her boats will generally experience a very heavy surf on the beach. The best anchorage and place for communication is off the village of Farṭák, known as "Saïf, or Kersah." A ship may there anchor in 9 fathoms ½ a mile off-shore, with gradual soundings to 40 fathoms 3½ miles off; but off the east side of Mount Farṭák the soundings become much deeper, and continue so round the cape.

The people of Farṭák and the other villages have several bugalás and small boats belonging to them, and the nook near the village of Saïf affords them shelter during the north-east monsoon. Sheïkh 'I'sa ibn Mobárek is both feared and respected by those under him: his trade gives him power to reward his followers, and enables him to call in the assistance of the neighbouring Bedouins when required; his voice, therefore, in the councils of the tribe, has great weight.

Rás Farṭák,† in 15° 36′ 40″ N., 52° 21′ 10″ E., allowing

* A kind of holcus, the Indian juwárí, and dhurrah of the Arabs, sorghum vulgare of botanists.

† I conceive there has been a great error committed by certain geographers in placing the ancient Syagros at Rás el Ḥadd, and I am inclined to place it with Dr. Vincent at the modern Rás Farṭák, for the following reasons:—In Arrian's description of different parts of the Arabian coast,[a] the first place named is the village of Arabia Felix, which may fairly be fixed at 'Aden; from it he carries his reader to Cana, the site of which I have determined to be the modern Ḥiṣn Ghoráb. He then mentions the extensive bay of the Sachalitæ,[b] supposed to be the long line of low coast between Makallah and Keshín; he afterwards remarks[c] that the promontory of Syagros, and beyond it the Port of Moscha[d] and the islands of Zenobius follow in regular succession. What then can this order of succession be but Sheḥr, Farṭák, Dhofár, and the Curia Muria (Khuryán Muryán)[e] islands? beyond all these, is Rás el Ḥadd, which is itself aluded to as the place where the coast takes a sudden turn towards the Persian Gulf.

The

[a] p. 156, ed. Blaucard, Amst., 1683.

[b] The gulf called Sachalites (Arrian, Peripl. Maris Erythr. p. 158). Sachal is, as M. Fresnel has observed (Journal Asiatique, iii. x. 191), identical with Shiḥr, or Shaḥr, as it was, perhaps, anciently pronounced.

[c] Vincent's Periplus of the Erythrean Sea, pp. 331, 344.

[d] Mosen Asahem in Capt. Haines's MSS., which is evidently an error of transcription; perhaps he wrote, 'the ports of Moscha and Omana,' as in Dr. Vincent's work, p. 344.

[e] Erroneously Khartán and Martán in most of the Arabian geographers—*t* being distinguished from *y* only as its two points are above, instead of being below, the letter.

Bombay flag-staff to be in 72° 54′ 26″ E., is a lofty mountain about 2500 feet high, forming a very prominent cape, which may be seen by the navigator 60 miles off on a clear day. At a distance, it has the appearance of a dark-looking island, but on a near approach, is found to be connected, by hills of much less elevation, with the range of high mountains surrounding the extensive bay of Farṭák. I had no opportunity of going up to the summit of this promontory, or of permitting those under my command to do so, which I regret, as many fabulous tales are told of its productions. We saw with our glasses, however, on the western side, nearly as high as the summit, a very large grove of trees growing in a circle, the centre of which was apparently barren. The trees were tempting indeed to an observer accustomed to nothing but barren and naked ranges of hills and hillocks of sand, mile after mile; and this mountain, like an oasis in the desert, was doubly pleasing from its being the only green spot visible. What it could have been we were unable to conjecture, but the natives say that there are ruins in its vicinity; and this may be another relic yet remaining to point out the power of the Ḥimyarí kings when trade, under their rule, flourished in these seas.

Between Rás Farṭák and Rás Seger* the coast forms an extensive bay, the concavity of which is more sudden immediately round the high land of Farṭák. During the survey of this coast I sent the small tender round the bay, and by so doing gained the following information.

Immediately after passing the high land of Farṭák, there is said to be a creek, having sufficient depth of water over the bar at high tide, to enable their bugalás to enter for safety during the south-west monsoons, with deeper water inside. The first town visible, close along shore, is El Jaïzer, a considerable place under the government of Sayyad 'Aḳíb ibn Aḥmed. It has cultivated ground in its vicinity, and is a place of some importance, situated

---

The promontory of Syagros is marked as the largest in the known world,[a] and it certainly is the boldest and largest of any on the south coast of Arabia; and had there been another of larger size, the remark would not have been made. But, perhaps, the best argument that can be adduced in favour of Farṭák is the form of the cape as seen from the west, and we know how fanciful the ancients were in their description of coasts, and how their ingenuity was often exerted to trace the resemblance of the land to some living creature or well-known object. Not only the ancients, but navigators of all countries, have done this. The Arabs have their Ras Kalb, Dog's head, the English their Asses' Ears, Paps, Dolphin's Nose, and such like; and why should not the ancients have their promontory of Syagros or the Wild Boar, which the form of Farṭák, when seen 20 or 30 miles off from the west, strongly resembles?—(*The Author.*)

* Shejer, *i.e.* tree; but M. d'Abbadie (l. c. p. 135) has Ṣáyir.

[a] Arrian, l. c. p. 158. This opinion is corroborated by the learned and acute M. Fresnel, who observes (Journal Asiatique, iii. x. 192) that a cape two days' journey beyond Ḥásik is still called Sauḳirah, pronounced Saugirah, and almost identical with Syagros.

about 7 miles from the sea. Close on the sea-shore is the village of Jowárí, with a mosque, a few houses, and perhaps 200 people.

A few miles to the north of Jowárí, on the sea-shore, is the village of Fittok, and a short distance N.N.E. of Fittok, near the sea-shore, is a considerable town called Dunḳóṭ,* which has a fort, and considerable cultivation round it.

The coast, from the high land of Farṭák, is low near the beach, with high land in the interior, but a few miles north of Dunḳóṭ the hills come close to the sea, in the vicinity of which, some few people reside under the protection of a small fort known as Jardet (Jádet?). There are also two pretty villages near it, each having for its protection a fortified house. One of these, called Ḥau, is near the sea, and has some date-trees near it; the other, Rás Yúl, has a plantation also.

These villages terminate the plain, and from them steep precipitous mountains commence, running towards Seger. Between Rás Yúl and Rás Seger there are two ravines, through which the mountain-torrents find an outlet to the sea. Of these the southernmost is called Ḳaïs ibn 'Osmán, and the other Ḳaïs ibn 'Omar. The tender, while circumnavigating the bay of Farṭák, found anchorage all along in 6 and 7 fathoms, with a sandy bottom, rather too close to the shore; outside, from 7 to 12 fathoms, she generally found rocks and sand, and in deeper water mud and sand.

Rás Seger, a high, steep and slightly-projecting cape, forms the east point of the deep bay of Farṭák. It consists of limestone, and is about 3000 feet high, with level table-land on the summit. This cape forms the boundary between the Gharrah and Mahrah tribes.

The next point to Rás Seger is Rás el Aḥmar, the red cape, a continuation of red irregular hills running out from the steep mountain range skirting the whole coast from Rás Seger to Rás Nús.

The hills forming Rás el Aḥmar terminate in a low point under which there is a small anchorage and shelter from south-westerly winds, called Bander Rísút. This cape is the western boundary of the low land of Ḍhafár,†—which from it extends along the coast nearly 40 miles, and inland for a still greater distance. Rás el Aḥmar is in 16° 55′ N. and 54° 2′ 00″ E., and the small anchorage of Bander Rísút is immediately on its east side, affording shelter for small vessels during the strong south-west winds, which not only blow during the regular monsoon, but frequently during January, February, and March.

The soil of the district or province of Ḍhafár (for there is no *town* of that name‡), is abundantly luxuriant, well irrigated by

* Vulgarly pronounced Dumgóṭ.

† Or Ḍhofár.

‡ Perhaps Captain Haines was misled with respect to the present existence of that

mountain-streams, enabling the inhabitants to employ their industry in cultivation if they choose, and abundantly repaying the farmer for his labour. Still, though nature has been thus bountiful, the people are extremely indolent, generally contenting themselves with what the soil yields spontaneously, in preference to improving the crops by tillage. In some parts which I shall hereafter mention, the little labour they have bestowed on cultivating the ground has amply repaid them, and has, in fact, been one means of making them more industrious.

On the lofty mountain range of Subḥán, 4000 feet high, which runs parallel with the coast at a distance of about 16 miles, and has a luxuriant Tehámah, or belt of low land between it and the sea, the soil is good; wild clover growing in abundance and affording pasture for cows and immense flocks of sheep and goats, while in many places the trees are so thick that they offer a welcome shade impervious to the scorching rays of the sun. Mr. Smith, an officer of the vessel which I commanded, was deputed by me to examine the whole of the Subḥán range. He traversed it entirely in perfect safety, and, under the name of Aḥmed, became a great favourite with the mountaineers. He was everywhere hospitably entertained by them, and they would not even permit him to drink water from the numerous clear mountain-streams that were meandering in every direction. "No," they said, "do not return, Aḥmed, and say we gave you water while our children drank nothing but milk." In every instance they gave him the warmest place at the fire, and invariably appointed some one to attend to his wants. They even extended their generosity so far as to offer him a wife and some sheep, if he would only stay and reside among them. On Mr. Smith's expressing a wish to see some of the numerous wild animals whose footsteps were everywhere visible over their park-like mountains, they immediately despatched a party, who returned with a splendid specimen of an ibex,* a civet-cat, and a very fine ounce. He himself saw plenty of smaller game, such as antelopes, hares, foxes, guinea-fowl and partridges.

These hospitable mountaineers are handsome, well-made, active

---

place by the strange pronunciation of the natives of Mahrah. A passage in M. Fresnel's paper on the Geography of Arabia (Jour. Asiat. iii. x. 192) seems to justify such a supposition:—"Remarquons ici," he says, "que la position assignée par Ptolémée à la métropole de Sapphar (*Ẓhafâr* ou Ḍhafâr), le Sephar de la Genèse, le *Tsfôr* des modernes Homerites, cadre parfaitement avec celle du promontoire Syagros, supposé Râs Saugra (Saukirah). En effet, la longitude Orientale de ce cap surpasse d'environ deux degrés celle de Ẓhafâr dans nos meilleures cartes. Or, je vois dans Ptolémée la longitude de Sapphar marquée 88 degrés, et celle de *Syagros extrema* 90 degrés, ce qui nous donne précisément la différence voulue de 2 degrés dans le sens voulu. Je ne puis donc comprendre pourquoi d'Anville a mis Sapphar du côté d'Aden, et rejeté le promontoire Syagros à Râs-al-Hhadd."

* I have the horns by me, as a fine specimen; they are 3 feet in curve, with 21 knobs.—S. B. H.

men, and always well armed, their weapons being the same as those used by the Mahrahs. They are of the Gharrah tribe. Their women are handsome, and much fairer than any seen on the coast. I have seen as many as 200 at a time, who came down to barter their cattle, butter and gums, for dates, at Morbáṭ. Curiosity induced me to ask them how they accounted for being so fair, and their reply was, that it was owing to their drinking nothing but milk from their childhood; little dreaming that they were indebted to the renovating breezes and temperate climate of their native hills, on the summit of which in February the thermometer ranged from 49° to 72° Fahrenheit.

The dress of these women consists of a coarse cotton petticoat, with a blue robe over it; their dark hair, as usual, is artificially lengthened and arranged in long narrow twisted tresses.

The plants found by Mr. Smith in the Subḥán mountains were the same as those in the more elevated parts of Soḳoṭrah; dragon's blood, frankincense and aloës were seen in abundance.

We now return to the Tehámah or low land. The first village near the sea, to the E. of Rás el Aḥmar, is called Audád, being about 1 mile S.W. of the principal village of Ṣallálah, and having a population of 300 or 400 souls. This village is protected by a fort, and has its "Jámi'," or mosque, in which the service on Friday may be performed.* It is surrounded with gardens, date-trees and millet† fields, with some wheat, cotton, and indigo; and the soil is abundantly irrigated either naturally or by artificial canals from the neighbouring lakes.

The next village near the sea-shore, S. E. of Ṣallálah, is Haffer, in 16° 57′ 30″ N. and 54° 11′ 00″ E., about 1½ mile distant, containing a population of about 100 men.

Two miles and a half E.N.E. of Haffer, there is a fresh-water lake, formed by a copious spring, near which there are extensive ruins. This lake is deep and thickly covered with bullrushes, where we here found abundance of wild-fowl.

About 1½ mile inland, and 2½ to the N.E. of Haffer, is the village and white mosque of Robáṭ, with a population of 100 or 200 souls. The whole country surrounding the above-mentioned villages is cultivated, producing cotton, indigo, millet,‡ and other kinds of grain, a few vegetables, but no fruit. They apparently

---

* *Mesjid*, whence our word mosque, signifies "a place of worship;" *Jámi'*, "a place of assembly," a meeting-house. The latter only has a pulpit (minber), whence the Khoṭbah (prayer for the Sulṭán) is pronounced and sermons are delivered by the Khaṭíb (preacher), and where the sacrifices and services of the great festivals (id-el-Ḳurbán, &c.) are performed.—Murádjah d'Ohsson, Tableau de l'Empire Ottoman, ii. 453, 8vo. ed.

† Dhurrah, Sorghum vulgare.

‡ In the original, Jowárí, Sorghum vulgare (the Dhurrah of the Arabs), and Bájrí, *i.e.* Pennisetum typhoideum, probably called Ṭe'ám (food) by the Arabs.

care little for either of the two last named articles, their accustomed diet being milk and millet-bread, with meat occasionally.

Three miles to the E.N.E. of Haffer is the fort and village of Diríz, having a population of about 150 souls. The village has a salt lake immediately eastwards of it, and from thence, proceeding in an easterly direction, towards Morbáṭ, all traces of cultivation are lost till we reach the village of Thagah (Thákah), which has a small population, with a date-grove and some cultivated ground west of it. There are also several ruined forts near the hills, which at Thákah approach the sea. Thákah is in 17° 00′ 40″ N. and 54° 30′ E.

The extensive plain of Ḍhafár is bounded on the W. by the high mountains of Seger, and to the E. by Jebel Subḥán. To the N. each of these mountains gradually decrease in elevation, while towards the sea they are skirted by a low sandy beach, having regular soundings and good holding-ground, from 10 to 4 fathoms. During the north-easterly monsoon, the gusts off-shore from the N. and W. are at times very violent.

The sea-coast continues low and sandy till within 17 miles of Morbáṭ, when it is terminated by a dark precipitous bluff of moderate elevation.

Trading-boats now frequently touch at the villages along the shore of Ḍhafár, and barter dates, rice, and cloth for gums, butter and grain; and, as this coast forms the shore of the gum-country, it might, with a good system of government, and an industrious population, be rendered a most flourishing tract. This fact did not escape the notice of Sayyad 'Aḳíl, a celebrated chieftain on this coast; and, had Providence ordained him a longer life, the now neglected plain of Ḍhafár would, doubtless, have presented the same appearance of opulence and bustling activity as characterized it in former ages.

The frankincense and gum-arabic annually exported from Morbáṭ and Ḍhafár vary from about 3000 to 10,000 maunds,* which is nothing to what might be procured, the trees being exceedingly numerous on the mountain-declivities and in the valleys inland, and attaining a height varying from 15 to 25 feet. The bark is of a greyish colour, easily pierced, and the leaf large. In this neighbourhood is found the aloë-tree† of Soḳoṭrah, growing out of masses of primitive limestone, apparently without any earth to sustain it. Its height averages from 3 to 15 feet.

The inhabitants of the villages in the plain appear to have but

* Mans; but do the Arabs use this Indian measure?

† Ṣabr, the name given by Captain Haines, is the Arabic word for the aloë. His drawing shows that it must be the variety called "arborea" by Förskal (Flora Arabica, p. cx.). The officinal aloë is called Aloë Socotrina.

little intercourse with the Bedowins of the interior, who only visit them for purposes of trade.

The people of the plain are of mixed blood, owing to the influx of settlers during the time of Sayyad Moḥammad 'Aḳíl. They are (as most town-bred Arabs) timorous, indolent, and much addicted to the use of tobacco. The dress of the higher orders is that commonly worn by all respectable merchants, viz., a white robe, bound round the waist with a shawl, and a "fótah," or waistband. Their heads are shaven, and protected by the customary 'amámah,* or turban. The poorer classes wear merely the "fótah," secured to a neatly-plaited leather belt, the workmanship of the Bedowin girls, called "'akab," which is tightly secured round the waist: when out of doors they wear the yambe'.†

The Gharrah Bedowins, who are the roving rulers of the country, prefer their glens and mountains to the hotter Tehámah, and wander from spot to spot, as the pasture serves for their cattle and flocks. They employ themselves during the S. W. monsoon in collecting gum, and frequently reside in the cavities of their limestone mountains.

They are a fine, athletic race of men, dressed in a blue, glazed waistband, which is, in general, their only covering. Their arms are the matchlock, yambe', and short, straight sword; but some, who cannot afford to purchase these weapons, arm themselves with a piece of very hard, heavy wood shaped thus,—

which they throw with great precision as far as 100 feet—at that distance, indeed, they could kill a man. This weapon is thrown so as to rebound along the ground, and every lad carries one in his hand. They allow their hair to grow long, and it is then gathered up behind, like the Mahrahs', which gives them a wild appearance.

Immediately before the fast of the Ramaẓán‡ both males and

* Or 'Immámah, from its fulness or size; properly a large, official turban—such as judges and public officers wear.

† Spelt Jambea by Captain Haines; but that Yanbe' is the proper spelling appears from Niebuhr (Arabia, p. 62), who, as a German, spells it Jambea. The final *a* is used to express the letter *'aïn*. The word is probably a colloquial term introduced in modern times. In this sense it is not found in Arabic lexicons: it means literally, "it flows, spouts out," as blood from a wound, or water from the earth, hence *Yanbu'*, a spring, is the name of a town in Arabia, on the Red Sea, from the abundance of springs in its neighbourhood. Janbíyah might mean in Arabic a "side arm;" but no such word appears to have been ever used, therefore it must be supposed that Niebuhr's orthography has been adopted by Captain Haines.

‡ Ramaḍhán, in Arabic.

females visit the Tehámah for the purpose of barter, and it was then that we had an opportunity of seeing them.

It struck me that their women (who are modest, though they wear scarcely any covering), and their young men, have a Jewish cast of countenance. Their faces are longer than Arab faces generally are, their eyes large and bright, and they have figures that would have delighted the eye of Canova, could he have seen them. They are much fairer than the Arabs of the coast, and were apparently pleased to see men stouter and fairer than those of their own tribe. Indeed, they were frequent lookers-on at my crew when playing at cricket; and I then had forty fine extra Europeans on board, having saved the crew of the Reliance whaler, which had been wrecked on one of the Curia Muria [Khuryán Muryán]* Islands.

The Gharrah Bedowins seldom eat meat, excepting on festivals; not that they dislike it; as their favourite dish is young camel's flesh, but they value the milk too highly to slaughter the females of either camel, cow or goat. The males of the two latter, they frequently dispose of on the coast for dates, cloth, &c.

As Sayyad 'Aḳíl, formerly ruler of Ḍhafár, was at one period conspicuous and much dreaded, I shall add a short account of him, to show how from being an object of detestation, he at last commanded respect, and even veneration.

The 'Aḳíl† family were merchants. The brothers Sayyad Moḥammad and 'Abdu-r-Raḥmán were in the habit of trading in a large bugalá belonging to their father, which gave them a predisposition for a roving life; and, as Fortune favoured their speculations, they added to the number of their vessels, and purchased 500 slaves from Mozambique. In one of their voyages Sayyad Moḥammad visited Ḍhafár: the luxuriant appearance of the country tempted him to settle there, and he gradually rose to be master of the place. With a large retinue of slaves, assisted by his own ability and bravery, he defeated the Gharrah tribe in every engagement, and was latterly much dreaded by them. Under his just rule, the district flourished, and trade and population increased. He extended his conquests as far as Morbáṭ, and there built a fort for the protection of the town.

Ambition and avarice, united with his predilection for a roving life, led him to commit piracies on the high seas; and his vessels,

* Curia Muria, the name introduced into European maps by the Portuguese navigators of the sixteenth century, shows what the vowels of these names should be, while the Khartán Martán of Idrísí and other Eastern geographers prove that the fine nasal was, as is often the case, dropped in common parlance, and that through the ignorance of transcribers the letter before *á* was written with two points above instead of below, and made *t* instead of *y*.

† 'Aḳíl is the name of a distinguished Bedawí tribe (Burckhardt's Notes on the Bedouins, p. 232).

among other prizes, captured in the Red Sea an American ship, of which all the crew were murdered, with the exception of one boy, whom he carried to Ḍhafár, and educated in the tenets of the Mohammedan faith. When we arrived at Ḍhafár, this young man had nearly forgotten his mother tongue. He was a Mohammedan, and had a wife and several children, and seemed perfectly contented with his lot.

After some years of cruelty and plunder, the Sayyad's conscience smote him, and he suddenly gave up the sea, and settled quietly in Ḍhafár, anticipating the comforts of a quiet life, and anxious to make others happy; but in this he was disappointed. The Gharrah tribe deceived him, and for a time led him to imagine that they were contented with the justice of his government. They traded freely with the Tehámah, and apparently all animosity between them and him was buried for ever. This calm lasted from 1806 to 1829. The district still improved, and even Morbáṭ could number a population of perhaps 2000 souls. This bold rover, with his mode of life, had changed his habits also. He became devout, and averse to shedding blood; was loved by his subjects for his mild and impartial rule, and dreaded by his enemies. Treachery, however, had long been at work, and opportunity alone was wanting for the Gharrahs to take their revenge for the many acts which they deemed tyrannical and oppressive. Moreover, there were many others between whom and the chief there existed a mortal feud, on account of relations who had been slain by his followers; and all these persons eagerly joined the cabal against him.

The long wished for opportunity occurred after the month of Ramaẓán,* in 1829. The Sayyad, returning from Morbáṭ with a smaller retinue than usual, was mortally wounded by a matchlock-ball, fired from the low brushwood. When he fell, his slaves immediately fled, and the Bedowins, who were lying in ambush, dispatched him at once. His body was afterwards found, by a strong party sent out to recover it, pierced with numerous wounds from their daggers, or yambe's.

The Imám of Maskat, hearing of the death of Sayyad Mohammad 'Aḳíl, sent a force to take possession of the territory for the brother of the deceased, Sayyad 'Abdu-r-Raḥmán, who was still a merchant, and at that time in Bombay. But, when he heard the particulars, he prudently declined the proffered honours of so unsatisfactory a sovereignty, and preferred the more peaceful and profitable calling of a merchant, which he still exercises at Mokhá, where he is distinguished for his intriguing disposition, as well as his great wealth.

The Imám of Maskat requiring troops for the settlement of

* Ramaḍán, or Ramaḍhán, in the mouth of an Arab.

his southern possessions, the force at Ḍhafár was withdrawn, and the district once more fell under the rule of the Gharrah tribe, who soon drove away the greater part of the inhabitants by a system of plunder and monopoly, and thus their villages have dwindled away almost to nothing.

Immediately E. of the cliffs to the W. of Thákah the soundings on the coast become deeper, with alternate cliffs and small sandy beaches. About 7 or 8 miles W. of Morbát there is a small rock, called Jawàní (Ḥuseïn), having some ancient ruins of hewn stone on its summit. It is distant about 50 yards from the mainland. Its length is about 300 feet, by 200 broad. Tradition says a bridge formerly connected it with the mainland.

Morbáṭ, or Merbáṭ,* is a small village,† in 16° 59′ 15″ N., and 54° 47′ 40″ E. (reckoning from Bombay, as before stated), situated in the centre of a small but well-sheltered bay, named after it, containing about 50 houses, and a population from 150 to 200 souls, who may be divided into three classes:—1st, a few Arab merchants not born there; 2nd, Arabs who are either descended by their mother's side from individuals of the Gharrah tribe, or have married Bedowin wives; and, 3rdly, slaves, the females of whom are not celebrated for their morals. The head man, or Sheïkh, when I was there in 1835, was Aḥmed of the Makyat branch of the Gharrah tribe, a strong, well-made man, 5 feet 7 inches in height, and 35 years of age, with good features, and a benevolent countenance. I received great civility and politeness from him. He was true to his word, and extremely obliging, which much facilitated my work. In return for his kindness, I presented him with a rifle, thirty German crowns, and some cloth. The population we found extremely indolent, addicted to smoking, and lolling at their ease. They possessed no vessels, not even fishing-boats, and were too lazy to make rafts.‡ One of the younger merchants purchased a boat from a bagalá, while we were there, with the money he had amassed to pay for a wife, which speculation turned to good account, as I employed him to supply the ship with water.

The houses in the village are miserable hovels; those that are inhabited are erected on a rising ground, immediately S. of the landing-place, having to the S.E. a small, square, ruined fort; and to the N. one of much larger dimensions, built by Sayyad Moḥammad 'Aḳíl, surrounding which, are the relics of numerous houses in ruins.

* Mirbáṭ, commonly pronounced Merbáṭ, is the spelling fixed by Abú-l-feda, Geog. i. 98.

† Its position was derived from numerous observations. By 30 azimuths in 1834, and the variation determined at 3° 12′ W. In 1836, variation by 62 observations on shore was 2° 27′ W. High water at 8 or 9 hours, rise and fall 6 feet 10 inches.

‡ Catamarans.

There are the remains of another village near the base of Jebel 'Alí (a red granite hill near the beach at the head of the Bay), which apparently surrounded a tomb called Ḳubbaṭ * Sheïkh ibn 'Alí, dedicated to the patron-saint of the place. On the extreme point, forming the south side of the anchorage, are the ruins of another tomb called Ḳubbaṭ Sheïkh Hidrús [Idrís ?].

Both the inhabitants and vessels are supplied with water from holes dug in the sandy soil of a small valley near the hill called Jebel 'Alí. This water is brackish and unpalatable at first, but becomes tolerable after a time, and we never found it to possess any pernicious quality.

Morbáṭ affords but few supplies. All we obtained were goats and bullocks brought from the interior, and a few radishes and onions from Ḍhafár: wood is brought from the mountains.

Morbáṭ or Merbáṭ Bay is a small, secure, and well-sheltered anchorage for 24 points of the compass, but from S. to W. it is open. The low and rocky point to the S., called Rás Morbáṭ, has a sunken rock off it, at 300 yards' distance. The bay turns suddenly from the pitch of the point, in a northerly direction, having two or three small points and bays, ere that upon which the present village stands is reached, and from thence the deepest bay of any, forms the landing-place; and after passing the watering-place, the shore turns gradually in a western direction towards Ḍhafár.

During the N.E. monsoon the water is as smooth as a mill-pond. The soundings extend but a short way off-shore; and a vessel will quickly shoal from 30 to 10 fathoms, between which and 5 fathoms, from 500 to 600 yards off-shore, there is the best anchorage. I generally anchored in 6 or 7 fathoms off the village.

A leading mark for making Morbáṭ, used by native navigators, is Jebel Dekan (or Jebel Morbáṭ), as they term it, being nearly true N. from Rás Morbáṭ. This peak is nothing more than an elevated part of the Subḥán range, from which the mountains rapidly decrease in height in a westerly direction, thus rendering it a conspicuous object from the sea.

The revenues of Morbáṭ are trivial; but the Sheïkh receives a present from most vessels anchoring in the port, which enables him to pay the annual stipend of 70 dollars to his tribe, and to live respectably himself. He also levies a small anchorage-fee (nominally), in proportion to the size of the vessel, and the will and liberality of the Nákhodá.† I have known one, two, or three

* Ḳubbah, or Ḳobbah, whence our word alcove, signifies a sepulchral chapel—a saint's shrine, frequented by the devout—a place of pilgrimage. Ḳ is pronounced in this part of Arabia, and in Egypt, commonly like *g* in *geese*. Ghubbat, as Capt. Haines spells it, means a bay or creek.

† Master of the ship; an Indian term from náó, ship, and khodá, which here signifies not God, but lord or master.

bags of dates given, and sometimes a bag of rice. The power of the Sheïkh extends nominally from Thákah to Rás Nús; but I doubt whether he would attempt to inflict fine or punishment upon any offender except one of his townsmen.

While surveying and examining this part of the coast, I took an opportunity to ascertain the number of vessels that annually supply the S.E. and Southern coast of Arabia with dates, thence deducing an estimate of the immense quantity brought from the Persian Gulf and Maskat. This also shows that any strong naval power could almost cause a famine among the inhabitants of that tract.

Some of the more intelligent merchants, when I mentioned this to them, were much astonished at my remark, as to the ease with which the inhabitants of the south coast might be punished for any offence they had committed by a blockade, which would almost reduce them to starvation, as the growth of dates on their coast would not supply one-twentieth part of the quantity needed for their support. When they clearly understood me, one of them exclaimed—"That is not the idea of a man, but of the devil; for into man's imagination such a thought for the wholesale destruction of his species could never enter. Say no more about it; for dates are bread, and bread is the staff of life."

The season for the run of the trading-boats down the Arabian Coast from the Persian Gulf is from the beginning of November to the end of December. From the 21st of November to the 10th of December, 40 boats anchored in Morbát Bay, all laden with dates, and varying in size from 30 to 150 tons; and 121 boats passing the port were hailed, varying from 30 to 300 tons, which is about one-half the number for the season; so that the whole may be nearly as follows:—

	Tons.
In 18 days, 40 boats anchored with dates, average 80 tons	3,200
In 18 days, 121 vessels passed with dates, average 80 tons	9,680
Total	12,880

This amount I witnessed; but believe that the remaining days in the two months above mentioned would make the annual supply little short of 25,000 tons.

The larger class of boats return before the S.W. monsoon sets in; but others, well equipped, with a navigator on board, return with the "Tadhbírah" * in June, or after the first blast of the S.W. monsoon has been felt upon the coast, their cargo being

* *Tadhbír*, as it should be written, signifies a certificate: it is here probably used technically for the first indication of the monsoon.

principally coffee. The smaller craft, called bedans, baḳárahs, batillahs, and tránkís* of the Moṣeïrah and Ṣúr districts, make a coasting voyage, and employ themselves in fishing along-shore, and then return with the current in March or April. I have met them in fleets of fifty or sixty boats, with from eight to ten men in each, and do not hesitate in saying that they plunder whenever an opportunity offers without personal risk. As a proof of this I may mention, that while carrying on a trigonometrical survey of the coast below Cape Isolette, I had left the ship in my launch and cutter at 3 A.M., accompanied by Lieutenant Sanders and Midshipman Fleming, with the view of commencing my work about eight miles to the N. in Jinzerah Bay, by sunrise. When we were about four miles from the beach, and it was still dark, we crossed a large baḳárah on the opposite tack, and spoke her in passing. The cutter being some distance astern, with only Lascars in her, my attention was naturally attracted to her, as I doubted the honesty of these traders much: nor was it without reason, for the baḳárah wore round and stood for her. We immediately bore up to the assistance of the Lascars, and when close, received a volley of matchlocks from the baḳárah, which we returned, and stood for her. Finding that we were well armed, and not inclined to be intimidated by her fire, she took to her heels. I ordered the cutter to keep on her off-shore side, while I pulled and sailed in the launch in her wake, keeping up a fire of musketry. My object was to keep her in-shore close to the high breakers, and, as the day dawned, for the surveying-vessel to open fire upon her, and cut off her retreat, as she was too fleet for us.

As daylight dawned, the nákhodá of the boat found himself in a most awkward predicament. On his larboard bow was the Palinurus within half a gun-shot; on his starboard bow and beam heavy breakers; close astern the launch, firing at him; and on his larboard quarter the cutter. He was so hemmed in that his only alternative was to run his vessel ashore, which the second 9-pounder shot from the Palinurus compelled him to do, and all hands swam on shore. I afterwards sent the launch with a gun to destroy her; and complained to the Imám of Maskat, whose subject owned the boat. He immediately took notice of it, and imprisoned its nákhodá and owner for life.

Prior to quitting the subject of Morbáṭ, I would observe that during the prevalence of the sudden and dangerous blasts from the N. and W. (called by the Arabs belát†) which a vessel will sometimes experience in Curia Muria Bay, a strong south-

* Taránkí is probably an Indian term from táran, "to cross over, to swim."

† Belád, *i.e.* country, land; the final *d* is often pronounced like *t*. El belád here signifies the land, provinces, countries in the interior.

easterly breeze will be found blowing over the point of Morbát during the day, and light and variable airs during the night with smooth water.* I account for this change of wind by the extensive precipitous wall of Subḥán, which forms a barrier on its S. and E. face, varying in elevation from 3000 to 5000 feet, and running in a N.E. by E. direction from Morbát to Rás Nús; so that on rounding Rás Nús for Morbát the wind diminishes in strength, and gradually blows parallel with the line of Subḥán, until the Valley (Wádí) of Ḍhafár is opened, through which northerly and westerly winds rush down with violence. Owing to the same cause but very little rain falls during the year upon the rocky belt of land at the base of Jebel Subḥán, and Morbát rarely has the benefit of a shower, while to the W. the sides and summit of the Subḥán range are covered with verdure.

Rás Morbát is a low rocky point forming the southern part of Morbát Bay, and the S.W. point of the low belt of land which extends in breadth from 6 to 12 miles from the Subḥán mountains. Its extremity is very low, and a rocky reef extends from it about 400 yards. Caution, therefore, is requisite in rounding it, as the soundings are very bold—10 fathoms being close off the pitch of the reef, and 20 fathoms not 300 yards from it. It is in 16° 57′ 50″ N., and 54° 47′ 26″ E.

From Rás Morbát to Bander Gingerí [Ḳinḳerí] the coast is low, rocky and irregular, forming several small sandy bays with rocky points and small isolated rocks close to them. The soundings are deep, giving in some places 100 fathoms within a quarter of a nautical mile, and 30 or 40 fathoms within 200 or 300 yards.

Bander Gingerí [Ḳinḳerí †] is a small sandy bay to the westward, and immediately under the high conical hill bearing that name. It is 2¼ miles broad at its entrance, and 1¼ deep, affording shelter from easterly and north-easterly winds, but open to the S. This bay has irregular soundings all over it, varying from 8 to 12 and 16 fathoms, over falls with a bottom of rocks and sand; and in the centre, on a line drawn from point to point, it has 26 fathoms, with deep water immediately outside the bay.

Jebel Ḳinḳerí, a remarkable conical hill, in 17° 1′ N., and 55° 7′ E., close to the sea, and 1300 feet high, is composed of limestone, with veins of chalk and gypsum traversing its southern face, with portions of shelly limestone on its summit. Lieutenant Jardine, I.N., an officer whom no trifling difficulties could deter

* These alternate land and sea breezes by night and day are common in tropical and semi-tropical countries. During the whole of the summer the inbat (imbatto), which is a strong sea-breeze, cools the air at Smyrna, and is succeeded by light air from the land at night.

† Ḳinḳar, or Ḳanḳal, means a tiara, or conical vessel for measuring dry goods; called Jenjarí by M. d'Abbadie, but as *j* and *ḳ* have nearly the same sound in Egypt and many parts of Asia, such changes in orthography are not uncommon.

from accomplishing the wishes of his superior in authority, succeeded in ascending to the summit of this steep hill, and from it obtained corroborating true bearings. The ascent was extremely difficult, and it was only by great perseverance that he managed to carry up the theodolite and sextant in safety.

Between this peak and Morbáṭ there is a very small bay, sometimes frequented by fishing-boats.

To the N.E., 13 miles from Jebel Ḳinḳerí, there is another called Moṣeïrah,* of a similar formation, with a rocky irregular coast-line between them. One valley (Wádí), with a little brushwood, may be seen about half way between them: otherwise the same feature in outline extends to Rás Nús,† the S.W. point of Curia Muria Bay, with deep water close to the shore the whole way.

The belt of low land from Morbáṭ to Rás Nús is called by the inhabitants "Ṣelláḥ."‡ It is bounded on its N. side by the Subḥán range, and its S. side by the sea. It varies in breadth from 6 to 12 miles, and extends N.E. by E. and S.W. by W. 36 nautical miles.

The whole of this rocky belt of land is extremely desolate. Scarcely a vestige of vegetation is to be seen; but in the hollows of the water-courses, antelopes and hares manage to pick up a scanty subsistence, and in a ravine near Rás Nús there are some date-trees, which owe their existence to the mountain-streams, which, after heavy rains, force their way to the sea.

Before leaving the country of frankincense, which I consider as commencing at Rás Farṭák and terminating at Rás Nús, I would observe that the whole of it is a high tabular limestone, varying in elevation from 3000 to 6000 feet, extending through Ḥaḍramaút to the confines of Yemen.

The Curia Muria Islands,§ I am aware were formerly called the Isles of Incense; though, with what propriety, will be shown as my description of the coast and islands proceeds. Should I be wrong in fixing Nús as the boundary, Rás Ḳarwaú or Saukirah will be the north-easterly termination of the frankincense country.

Rás Nús, in 17° 12′ 30″ N., and 55° 22′ 30″ E., is a low but prominent cape, forming the S.W. point of Curia Muria Bay. Immediately over it there is a high mountain, running from the S.W. and N.E. and shaped like a quoin, the highest and most precipitous part being near the sea, somewhat like a bluff.

Immediately S.W. of Nús is a large mass of rock near the sea,

* The little goal, or object sought; Mazeïra of the Portuguese maps.

† Probably Anús.

‡ Or rather Ṣáliḥ, for Ḳaum Ṣáliḥ, the people of the Prophet Ṣáliḥ who was sent to convert the tribe of Thamúd, as Húd was sent to the tribe of 'Ad.—Pococke, Spec. Hist. Arab., p. 36, 37; Sale's Koran, Prelim. Disc., p. 59.

§ Properly Khuryán Muryán.

shaped like a tub. The constituent rock of Mount Nús (which is 1200 feet in height) is granite; the cape being a low point jutting from it, and forming the S.E. point of a small boat-anchorage named after it.

Bander Nús * is a small anchorage, formed by a slight concavity of the coast between the point of Nús and a slight projecting rocky point called Rás Samhór, which has a small reef off it. Shelter is here found from southerly and westerly winds, but the anchorage is close to the shore. Our tender anchored in 9 fathoms, sand and rock, about 500 yards off, with the point of Nús S. 5° E., and near the date-trees, which are the mark for a spring of good water, from which coasting-vessels frequently supply themselves. This spring is sufficiently abundant to supply two and three vessels in a day; and firewood is procurable from the ravines in the neighbourhood.

The population near the sea is scanty; indeed, on this part of the coast, we found only a few half-starved wretches, who call themselves servants of Nebí Ṣáleḥ ibn Húd,† to which office they appear to attach considerable importance, and are highly proud of it. Their poverty may be accounted for by their being chiefly dependent upon the generosity of travellers for their subsistence. They are poor creatures, nearly naked, and living in circular low hovels, loosely constructed of stones, and covered with sea-weed and the leafless branches of small trees. Their huts exactly correspond with the description given of them by Ibn Bátútah in the fourteenth century.

Their holy functions have not, apparently, improved their morals; at least, they could not resist the temptation afforded by my launch, which with some officers and ten men spent one night at Ḥásek, as on their departure in the morning, they discovered that not only their three cooking-pots had been stolen, but the remains of their provisions also, consisting of biscuit and salt-pork.

Rás Samhór is a low rocky point, forming the northern extremity of Bander Nús, and having two small rocks a few yards distant from it. The tomb of Nebí Ṣáleḥ ibn Húd,‡ placed in a small valley between Rás Samhór and Rás Ḥullán, about 1 mile from the sea, in 17° 16′ 30″ N., and 55° 21′ 40″ E., was once an edifice of some strength and splendour. It is 50 feet long, and nearly of the same breadth. Its roof was originally supported by sandstone pillars, and hewn blocks of the same kind of stone formed

* Port of Nús.

† The Prophet Ṣáliḥ, son of Húd. They should say Húd-ibn-Ṣáliḥ. Concerning Húd, *i.e.* Eber, son of Salah and grandson of Arphaxad (Gen. x. 24), much may be found in d'Herbelot's Bibliothèque Oriental (Houd).

‡ Ḳabr Húd, the tomb of Húd in Abú-l-fedá, Geogr., i. 99; Edrisi, i. 54; Pococke, Spec. Hist. Arab., p. 36. It is only from extreme ignorance that they say Nabí Ṣaliḥ instead of Nabí Húd-ibn-Ṣáliḥ.

its walls. The whole is now a mere heap of ruins. It is said to have been frequented as a place of worship and pilgrimage prior to the time of Moḥammed. Húd must have lived about the time of Abraham, after the destruction of the tribes Thamúd and 'A'd. The veneration formerly shown to the remains of this saint has much diminished; few strangers now visit his shrine, and they only coasting-traders, attracted by curiosity rather than devotion. The Gharrah tribe make no annual visit to the tomb to thank the prophet for their enjoyment of all earthly comforts, which, according to their ideas, consist of their wives, children and flocks.

The tomb itself, supposed to contain the prophet's body, is 23 feet in length by 4 in breadth, and is constructed of fragments of white limestone and madrepore, plastered with clay and cement. The pilgrims approach the last resting-place of the departed saint with great reverence, walking slowly round it three times, and frequently inclining their heads so as to press their lips on the tomb. Prayers are repeated as they walk round, which being finished, they slowly retire, and make a last prostration at the door.

Rás Ḥullán* is a low rocky cape immediately to the S. of Rás Samhál, and bearing from it S. 25° W. true. Rás Samhál is a low rocky point on a transit line with Rás Nús and Rás Ḥásek. It takes its name from the Wádí Samhál, a well-wooded valley, which has a spring of fresh-water, and a pool of brackish water near the sea. The three capes last named are merely slightly projecting rocky points, close to each other, and forming the irregular outline of the coast between Nús and Ḥásek.

Rás Ḥásek is a low projecting rocky point in 17° 21′ 35″ N., and 55° 23′ 50″ E., forming the S. point of Ghubbeṭ-el-Dhúm.† It affords a shelter from southerly winds for boats that have occasion to anchor at Bander Ḥásek‡ The bay forming Bander Ḥásek is very small, and the soundings do not extend off shore 400 yards, at which distance I could not find bottom at 130 fathoms. At a short distance from the centre of the bay, and in a valley, are the ruins of the ancient town of Ḥásek, with the stumps of a few dead date-trees, and a well of brackish water. Some of the people here were entirely without clothing, living exclusively on fish, and wretched in the extreme. Immediately to the S. of Rás Ḥásek, in a slight curvature of the coast, there is a plain called Súḳ Ḥásek, from its having been the market-place when

---

* Cape Kid.

† Ghubbeṭ-el-dúm, *i.e.* palm-tree-bay. Dúm is the bifurcate palm, called by botanists Cucifera Thebaïca; but here it signifies the Nebek, a kind of jujube (Zizyphus spina Christi), according to M. d'Abbadie, l. c. p. 132.

‡ Port of Ḥásek, a town of great antiquity in this part of Arabia.—Edrisi, Geogr., i. 54.

Ḥásek flourished. This curve in the coast is sufficient to shelter two or three boats from northerly winds.

An inlet of the sea (the bed of which is now a marsh, separated from the sea by a belt of sand, the accumulation of centuries) once existed in Wádí Ḥásek, and in all probability formed its ancient port, as its waters would almost wash the base of the old ruined town. A few stunted date-trees are scattered over its surface, and the bed of the valley higher up is densely filled with acacias, tamarisks and other small trees. The slopes of the mountain produce the lubán, or frankincense, which is collected in small quantities by the Bedowins in the proper season.

The coast from the sea has a wretched appearance, not the slightest marks of vegetation being perceptible to the eye. On shore, however, the valleys are found to be well wooded, having each either wells or a rivulet of fresh-water. To those who prefer grandeur and sublimity to the softer features of landscape, the solemn unbroken face of these limestone mountains, and the sharp peaks of the granite ranges (one of which, Jebel Habaríd, attains an elevation of 4000 feet), present a very striking scene; but the sailor, and still more the surveyor, weary of looking upon the same barren peaks, prefers the sight of green trees, and sighs for a verdant plain where he may stretch his limbs after months of confinement on board a vessel, where his space is limited to 26 by 96 feet.

Curia Muria Bay.—Ghubbet-el-Dhúm is a bay on the W. side and within Curia Muria Bay, having Ḥásek for its southern and Rás Montejib for its northern boundary. The land surrounding it is high, precipitous and tabular; containing three conspicuous ravines, the principal of which, called Rekót, is said to extend to the confines of Ḥaḍramaut, having the peak of Habaríd and the Subḥán range as its southern boundary.

As far as we examined the valley it appeared thickly wooded, and apparently well watered. The breadth of the water-course, and the huge masses of rock that have been swept down it, fully attest the force of the torrent after a heavy fall of rain.

At the entrance to the Wádí we discovered a spring and a lake; the latter being, from its neighbourhood to the sea, brackish. It was apparently the remains of rain-water mixed with water from the sea which had oozed through the sand. During the rains this watercourse would doubtless be a river discharging itself into the sea; which accounts for the "Prim"* river, marked in the old maps and charts of this part of Arabia. Some wild ducks and widgeons were shot on its banks.

At the extremity of Wádí Rekót, or Dhúm, which the Bedo-

* There was a town on the coast of Ḥaẓramaut called Berím (Jehán-numá, p 491), whence, changed into Prím, this supposed river received its name.

wins stated was 7 days' journey (140 miles*) from the sea, we were told it opens upon a fine and fertile country, abounding in all the necessaries of life; which, according to Arab ideas, I conceive to mean millet,† dates, and plenty of water to irrigate the soil and make it yield a good harvest without any great exertion of labour. The country is called Jezzár, and is inhabited by a branch of the Mahrah tribe. The principal town in this fertile district is called Jezzár also; and there is another large Bedowin station 3 days' journey from the sea, or about 60 miles. The mountainous tracts on the way to Jezzár are also fruitful, yielding abundant pasturage for the flocks and herds which form the chief wealth of the inhabitants.

Rás Montejib is a bluff headland, slightly projecting from the Bay of Ghubbet Dhúm. From it the coast takes a turn more northerly till it reaches the sandy beach which extends for 15 miles E.N.E. to the western cliff of Shuwámíyah.

Rás Shuwámíyah is a name borne by two different bluffs, neither of which deserve the appellation of capes, being only slight projections distant from each other $10\frac{1}{2}$ miles E. $\frac{1}{2}$ S., and $10\frac{1}{2}$ miles N. The coast between them is a line of limestone cliffs, forming a table-land from 400 to 600 feet in height. The western bluff is the darkest land surrounding the bay; having some trees and fresh water close to it, near the sandy beach above mentioned. The eastern bluff bears from Ras Minjí S. 83° W. true, distant $10\frac{3}{4}$ miles. The whole coast is bold, having 12 and 15 fathoms within 500 yards of the shore.

Rás Minji is a slightly projecting bluff, nearly 700 feet high. Close to it, eastwards, we found a pool of fresh-water near the sea. The soundings between Rás Minjí and Shuwámíyah are bold, with overfalls. This forms the boundary between the Gharrah and Jenábí tribes.

Rás Ḳarwáú is a low, black, slightly projecting and rocky cape, in 17° 53′ N., and 56° 22′ E.; from which a sandy beach commences, extending in a westerly direction for about 7 nautical miles. This cape is nearly insulated by a small salt-water lake, at the head of which the water is fresh. In the vicinity of this lake we found a few poor Jenábí fishermen, with their families, residing in excavations of the rocks, and subsisting entirely on fish, but possessing a few goats and sheep that grazed on the mountains, tended by the women. I employed them to procure wood and water for the vessel, and wished to pay them in crowns, but they preferred coarse blue and white cloths and rice. In the neighbourhood of this lagoon we found hares, foxes, partridges, plovers, ducks and widgeons.

* One hundred and twenty miles would probably be nearer to the exact distance.

† Jowárí, vulgarly called dhurrah by the Arabs.

Native boats running down the coast with dates, frequently anchor for shelter off the low, sandy line of coast to the west of Sherbedát,* and it has therefore obtained the name of Bander Sherbedát. It is good anchoring ground all along, from 5 to 10 fathoms, but on approaching Minjí Bluff the bank deepens suddenly from 7 to 30 fathoms. Inside there are 10½ fathoms; the bottom is sand, but outside it becomes rocky.

During the belád or northerly winds, which blow with great violence, a vessel coming from the N.E. should round Rás Ḳarwáú very close, and be prepared for strong gusts, both in rounding and in working in towards the anchorage, off the pool of water.

A large mangrove-tree† near the pool, affords a conspicuous mark for knowing the position of it.

Rás Sherbedát, the eastern point of Curia Muria Bay, is a steep projecting bluff in 17° 53′ 13″ N., 56° 24′ 47″ E. It has an even table surface, and steep precipitous sides.

Sherbedát and Ḳarwáú are well known, and much dreaded by Arab navigators, from the violent gusts frequently experienced off them, often occasioning the loss of mast, sail, or yard. These blasts may be expected from the end of October to the beginning of March, blowing from N.N.E. to W.N.W. I have rounded these bluffs with double reefs on the cap, and fore-topmast stay-sail, which was as much as the vessel could stagger under. But after opening Sherbedát Bay, we were always able to work into the anchorage under close reefs and courses.

The height of Ras Ḳarwáú is about 800 feet. Its components are nearly the same as those of Sherbedát—namely, a species of sandstone, more or less compact, lying over a horizontal stratum of chalk with masses of flint imbedded in it, and also in veins or seams. This latter stratum is about 25 or 30 feet thick, and has many fossil remains, while the former varies in thickness from 5 to 10 feet: in some places between the two strata are enclosed beds of shells, coral, and other marine productions. The summit of Rás Ḳarwáú appears to be composed of tertiary limestone with fossil remains.

Having thus far attempted a description of this extensive concavity in the line of coast called by Arab navigators Ghubbet Curyán Muryán, I will proceed to describe the islands so named, and the dangers which are situated on the outer edge of the bank of soundings running from the north shore, which is 26 or 27 miles distant, and therefore forms the outer barrier to this extensive bay.

Jezírat Ḳiblíyah,‡ the Eastern Island, and third largest of the

* Shirbetát (D'Abbadie, p. 132). † Rhizophora Mangle.

‡ Written Jibleea by the author, and Qibly by M. d'Abbadie (Bullet. de la

group, is nearly 2 miles long, 1½ broad, and 5 miles in circumference, forming from every point of view several peaks which are composed of primitive limestone, more or less allied to granite. It is rocky all round, with the exception of a sandy nook east of the N.W. point, in which we were able to secure our boats. The highest peak is 550 feet above the sea, in 17° 29′ 16″ N., and 56° 24′ 22″ E. It is merely barren rock—visited by a few birds of the gannet species. Its other occupants are almost every thing that is disagreeable to man—and they thrive well: snakes, rats, mice, scorpions, and centipedes without number. We found some graves, and some skeletons, in such positions as if the poor creatures had perished from starvation. This supposition was afterwards partly confirmed by the inhabitants of Ḥulláníyah, another of these islands, who informed me that a ship and a bagalá had been wrecked there, and that in consequence of their not being able to render them any assistance, owing to their having no boats, the crews perished miserably.

Four-Peaked-Rock is a small rock, so named by me from its outline. It lies N.W. of the north-westerly point of Ḳiblíyah, distant from it 1280 yards, with a rocky channel between them having 2 and 3 fathoms. It is elevated about 100 feet above the level of the sea, and has a shoaly reef extending three-quarters of a mile from its N.W. end, on which there are four small rocks. dry at all tides, and several parts of the reef are also dry at low water spring-tides.

Well Rock is a small rock situated off the S.W. part of Kiblíyah, distant from it 800 yards, with a channel of 7, 8, and 12 fathoms water between them, only a few yards from the rock in a south-easterly direction. This rock derives its name from a natural well in it, where we found salt water of a beautiful pink colour, which I imagine is thrown up during the S.W. monsoon.

Dangers off Ḳiblíyah.—There is a small and dangerous rock even with the water's surface at low tide, situated to the east of this island. It bears from the highest peak E. 11° S. *true*—and is 7728 yards distant from the island by trigonometrical measurement. Within a few yards of it, the cross transits are Four-Peaked-Rock, in one with the north end of Ḳiblíyah—and Well-Rock on, with the south end of Ḥulláníyah. Vessels should be cautious in rounding this island at night, as the soundings are a bad guide; and with a vessel in a breeze, there would be scarcely time to discover the dangers, particularly as the breakers on the rock are not always visible.

Soc. de Géog., ii. 17, p. 132), which shows what it really is, viz., Ḳiblíyah, *i.e.* turned towards the Ḳiblah; but, from the Egyptian use of that word in the sense of eastern, it is here given to the island which is furthermost from the Ḳiblah. Ḳiblíyah has become Jiblíyah by the same substitution of *j* for *ḳ* as is noticed above (p. 127).

Between the rock and the island, the least water is 9 fathoms. Two miles to the N. 95 fathoms; one mile and a half to the S., 60 fathoms; and to the eastward 170 fathoms, at a distance of two miles and a quarter.

The channel between the islands of Ḥulláníyah and Ḳiblíyah is perfectly safe, with from 20 to 46 fathoms, and without danger, unless close to the islands.

Jezírat Ḥulláníyah* is the largest of the Curia Muria islands, being 7¾ miles long, by 4½ broad, and nearly 20 nautical miles in circumference. It is composed almost entirely of variously coloured granite and limestone, is mountainous and entirely barren; indeed, on its western side, scarcely a bush was perceptible, but on its eastern face we found a few wild flowers, and a little grass, which served as subsistence for 30 or 40 wild goats. Wood is a scarce article; the largest, and in fact, only tree being the tamarisk. We found three wells of indifferent water, and dug a fourth for our own use, which the inhabitants immediately named "Bír Inkilíz." In the vicinity of the best well on the northern side, and about 1000 yards distant from the "Bír Inkilíz," we found while digging some feet under the surface, two tompions,† and some oaken bucket-staves, from which I should conclude that the place had been dug previously by some whaler. This well is in the N.E. bay, called Ghubbet er-raḥíb,‡ in a valley known as Káset el Wádí.§ The other wells are situated towards the eastern side, one northwards, and one southwards.

The eastern and western ends of Ḥulláníyah terminate in comparatively low points, while the centre is filled up with close ranges of granite mountains, the highest part of which is 1503 feet above the level of the sea, and forms a cluster of chimney peaks closely united. The N.E. end of this range forms a majestic bluff, of 1645 feet in height, being the most lofty part of the island. This bluff forms the N.W. point of the N.E. bay, called Ghubbet er-raḥíb. It is steep too, and there are 12 and 13 fathoms close to the rocks.

Ḥulláníyah is the only island of the Curia Muria group that is inhabited. Its population in 1835 consisted of 7 families, amounting in all to 23 souls.

I found these poor people inoffensive and civil. The men were of small stature, the women stout, and all very far from handsome. They calculated upon one death annually, which did not occur in 1835, while one birth was daily expected, and did take place

* Kid or sheep island. Ḥullán is a young kid peculiarly fit for sacrifice.
† Plugs or bungs for cannons.
‡ Spacious bay. § The bowl of the valley.

before we left the islands, and added one male to their number. This however is not likely to continue, as the women are considerably past the bloom of youth. They have no idea from what part of the coast they originally came, or whether they belong to the Jenábí or Gharrah tribes. It is most probable that they belong to the latter, and that they originally came from Hásek. They profess Mohammedanism, but they are not very scrupulous observers of its tenets; indeed, we saw but one who could say his prayers. Their huts, built of loose stones, are either square or circular, about 5 feet high, and covered with sea-weed. They change their habitations with the seasons, as the surf on the weather side is unfavourable to their fishing from the rocks. They have no boats or rafts, though their daily subsistence depends chiefly, if not entirely, upon their baskets and fishing-hooks. When unsuccessful in fishing, which is seldom the case, as the fish are abundant, crabs and shell-fish serve them for food.

I presented them with white and blue cotton cloth, knives, needles, thread and fish-hooks; and during our sojourn amongst these rude and simple islanders, many an unusual meal of rice did they receive, which they divided with the greatest impartiality. They grill their fish without scaling or cleaning them; and for weeks together this forms their only food. Sometimes they obtain a little tobacco from passing boats, which they consider as a very great luxury.

On enquiring why there appeared so many graves on different parts of the island (I must have seen from 600 to 800), they could give no satisfactory answer, though the oldest among them remembered the Jowásimí pirates visiting the island in about 1816, plundering them of every thing, and carrying away a large part of the population, which since then has never been heard of. Since the Jowásimí pirates have been put down by the English, they have not been molested; but on the contrary, are enabled to obtain from vessels passing the island, small and useful articles in exchange for their dried fish. The boats that touch here, generally anchor in 10 to 12 fathoms, with a sandy bottom, 500 yards off shore, abreast of a small sandy nook, on the north side of the island, and about $1\frac{1}{4}$ mile to the west of two conspicuous sand-hills, that may be discerned at a distance of 3 or 4 leagues. They are about $2\frac{1}{2}$ miles east of the western point of the island.

Besides the trading boats that occasionally touch here, the island is sometimes visited by a boat belonging to the Khalfán family of the Mahrah tribe, who claim the Curia Muria group as their hereditary property. The principal members of this family at present are,

Mohammed ibn 'Alí ibn Seyyid* ibn 'Omar,
Mohammed 'Alí ibn do do do do,
Nájim ibn Aḥmar.

They reside at Ghazír, and their periodical visit to the islands is for the purpose of claiming any ambergris that the inhabitants may have collected, as well as to obtain a large portion of whatever money they may have received in exchange for their fish. In return they are frequently rewarded with a little tobacco, dates, and coarse cloth; the liberality of the donors generally being limited by the amount of tribute they may have succeeded in exacting.

The anchorage above alluded to, is near the well on the N.W. side of the island, but completely open to easterly and westerly winds, with a breeze from the N. The island is a dead lee shore; any vessel, therefore, anchoring here must be prepared to start at a moment's warning. A small tender which I had, saved herself during one of these violent "beláts," or northerly winds, by running between the sunken rocks off the west end of Ḥullániyah, and anchoring under the lee of the island; and not 20 days afterwards, the vessel which I commanded had to slip her best bower anchor at 48 fathoms, and, under close reefs, was only just able to weather the outer sunken rock.

These poor islanders, though separated from other nations for a considerable part of the year, and able to exist upon their own resources, enjoy occasional opportunities of visiting the coast, which they consider as the height of temerity. Within the last few years, a few have mustered sufficient courage to embark on board a trading-boat, taking with them salt-fish for barter; and I was present at the return of one of these bold adventurers, who landed amidst the wondering acclamations of the rest of his countrymen, with whom he had spent his life: although he appeared rejoiced to return to the scenes of his early youth, it was evident when he walked up to his friends, dressed in a bright chequered turban, with a gay dagger, that the simple islander was changed by seeing the world, and that considerable self-esteem and pride had found their way into his bosom.

The western point of Ḥullániyah is called by the Arabs "Rás Shaṭṭ;" † by the islanders, "Erékhi Frahunt." The eastern point is called "Rás Ṣáïr."

The high bluff called Erekh Er-raḥíb, is in 17° 32′ 43″ N., 56° 7′ 17″ E., allowing the Bombay flag-staff to be in

* This is the same word as is spelt before, according to the Indian pronunciation, Sayyad: it signifies a noble or lordly personage, and especially one descended from the Prophet. For an account of the Khalfán family see De Sacy's Chrestomathie Arabe, 2nd ed. iii. p. 357.

† Point Shore.

72° 54′ 26″. The variation in 1835, by upwards of a hundred observations, was 2° 45′ westerly. High-water, fall and change, 8 h. 20 m. Rise and fall, 6 feet 6 inches. On the N. side, the ebb sets to the eastward, on the S. to the westward. The flood sets *vice versâ*. Ghubbet er-rahíb, or "the large bay," forming the N.E. side of Ḥulláníyah, is 3¾ miles from point to point, and 1½ mile deep. Its N.W. point is the highest part of the island, forming a bluff, as before mentioned. Its S.E. point is Rás Ṣáïr. Shelter might be found in it from south-easterly, southerly, and south-westerly winds, and a vessel might obtain fresh water by anchoring in 10 or 12 fathoms, about 800 yards off shore, with the extremities of the bay from N. 35° W., to S. 65° E. *true*, abreast of a small nook with a sandy beach, which may be known by a small peak that forms its eastern side. This nook is situated 1 mile to the westward of the E. end of the long sandy beach in the centre of the bay. The well is at a distance of 400 yards, in the centre of the valley, turning westwards, and is the best built well on the island.

Besides the goats, before mentioned, some wild-cats were seen, as also whip-snakes, scorpions and centipedes.

Ḳirzáwet,* or Rodondo, is the smallest island of the Curia Muria group, being a mere rock, which has a double peak, and a low point extending eastwards. The base of this island is formed of four rocks, all closely grouped together, composed of red granite. The highest peak is elevated 230 feet above the level of the sea, and bears from the majestic bluff of Ḥulláníyah true N. 55° 20′ E., distant 6¼ nautical miles. The only dangers off it, are two rocks, one situated about 300 yards to the W. of it, and the other to the N.W., 100 or 200 yards off, with a channel having from 8 to 16 fathoms water between them. In all other bearings this island may be safely approached, as it has 20 fathoms within 500 yards of its shore. It can be seen 25 miles off on a clear day, from an elevation of 13 feet.

The channel between the island of Ḥulláníyah and Sódah is 4½ nautical miles broad, but the safe channel is on the Sódah side, owing to the western point of Ḥulláníyah having several sunken rocks off it. The extreme sunken rock on the W. bears N. 86½ E. *true*, from the high peak of Sódah, and is distant from the low point of Ḥulláníyah 3660 yards, thereby reducing the channel to 5190 yards. The sunken rocks alluded to, are in some parts dry at low water in spring-tides; at other times, in a breeze, there is a break on them. They are distinct from each other, having 10 to 12 fathoms water between them; but I should not recommend any vessel to attempt to run through that pas-

* Or Ḳirzáúṭ. Rodondo, "round," is a Portuguese name.

sage, unless it were unavoidable, as the tides are strong, and the breaker on the rock is the only guide. The advice which I consider as most necessary, either for night or day, is to keep on the Sódah side of the channel, which is rocky all over, with overfalls of 3, 6, and 10 fathoms at a cast; but in no part between Sódah and the western sunken rock, are there less than 7 fathoms, unless very close to either. In mid-channel there are 12 and 13 fathoms. The ebb sets through the channel northwards, but it is much influenced by the sunken rocks.

Sódah* Island is the second largest, and second towards the W. of the Curia Muria group. Its highest peak is 1310 feet above the level of the sea, composed entirely of granite, stratified like Ḥulláníyah. Its extreme length is 3 miles, and its breadth nearly 2 miles. Its shape is an oblong, concave in the centre of its longest side, and its outline is an irregular slope from the high peak to its extremities, which from all views are low. There is a bay on its south side, about 1500 yards deep, with good anchorage, decreasing from 10 fathoms as you approach the centre of the bay. The entrance is ½ a mile wide, and the bay is exposed only to winds from W.S.W. to S.

This island has many small projecting points, off which, reefs extend from 100 to 300 yards, affording coves for boats. It is extremely barren, having no trees but tamarisks. Here and there a few wild flowers, similar to those in Ḥulláníyah, are scattered about, and a scanty supply of grass and moss was found near the summit of the peak. It was inhabited about 20 years ago, and the remains of rude dwellings are still visible on its south side, near a well, which on our arrival was dry; but which, on being cleared out, yielded a quick supply of brackish water. The last dwellers on this desolate spot, were two women: of these one died, and the other remained "sole monarch of all she surveyed," after the decease of her companion (with whom she confessed to have repeatedly quarrelled), until taken off by a charitable Arab navigator, and conveyed to Ḥulláníyah, where she was living in 1836, and told many strange tales.

The soundings immediately round this island are as follows:—

Between the E. and N. points 20 to 30 fathoms, close in; from the N. to the W. point 20 to 30 fathoms, a mile off; on its S. side 60 to 130 fathoms, ¾ mile distant; and off the S.W. side 40 fathoms at a mile distant.

Off the S.E. side, between this island and Ḥulláníyah, the bank extends southwards, but deepens suddenly from 33 fathoms.

At the E. end of Sódah there is a sunken rock 1100 yards offshore. The channel between the island and the rock is safe.

* That is, black.

Westwards of the rock ¾ of a mile, a vessel will have from 25 to 30 fathoms, deepening further off.

The high peak is in 17° 29′ 37″ N.; and allowing Bombay flag-staff to be in 72° 54′ 26″, is 55° 56′ 25″ E.

Ḥásikí,* the western island of the Curia Muria group, is 1⅖ mile long by ¾ broad, composed of granite, without a vestige of vegetation, or the appearance of ever having been tenanted by man. It was covered with thousands of birds of the gannet species, the excrement from which gave the island a white appearance. It is rocky all round, with 2 nooks on its eastern side.

The most elevated part of this island is 500 feet above the sea, and is situated in 17° 27′ 16″ N., and 55° 40′ 49″ E. Like Sódah, it has a sunken rock off its western side, with an intermediate channel of 16 fathoms. This rock is about 150 yards long; and is visible from the beach with the slightest swell. There is no other danger off this island.

The channel between Ḥásikí and Sódah is safe, with the exception of the sunken rock off the W. side of Sódah, previously mentioned. In a line drawn from the N. side of Sódah to the N. side of Ḥásikí, there are soundings from 35 to 40 fathoms: to the S. of that line the water suddenly deepens off the bank.

The longitudes here given are deduced from chronometric measurements made in 1834—5, and 6, with 8 and 5 chronometers to a fixed point, and from them again by trigonometrical measurements, assuming Bombay light-house to be in 72° 54′ 26″ E.

From Rás Ḳarwáú to Rás Saukirah,† the land is about 600 feet above the sea, precipitous to the water's edge, and composed of tabular limestone. Between these points there are 3 slightly projecting bluffs, between which the coast is slightly concave. The soundings along this line of coast are regular, a vessel finding 27 fathoms 300 yards off-shore; but, after passing Saukirah, the bank of uneven soundings, called Rejjat Jezzar,‡ commences. From Rás Saukirah, which is elevated 622 feet above the sea, the bluff cliff takes a sudden turn to the north, leaving from thence a barren sandy beach as far as Rás Khashá'im.

Off Saukirah the soundings are more shoal off-shore than inshore, varying from 25 to 33 fathoms.

To a vessel making Rás Saukirah from the N.E. it will appear a perfect bluff, slightly concave in the centre of its perpendicular, and to the N.N.E. of it there will rise a barn-shaped hill, which at first appears separated, but on a nearer approach is found to be situated on the summit of the adjacent table-land. The

* Ḥásikí, rapidly pronounced Ḥáskí, signifies belonging to Ḥásik, and evidently derives its name from the neighbouring town so called.

† Vulgarly, Súgrah or Sógrah.

‡ Or Rejjaṭ el Jázir. Rejjaṭ signifies "Ripple."

whole line of coast, with the sun shining on it, has the appearance of clay cliffs. The table-land runs more easterly under the barn, and gradually approaches the sea-shore near Karát, when it is again lost in the northern distance, leaving merely a sandy shore, thinly sprinkled with mangrove-bushes, until it joins the table cliffs of Ras Ḳhasháïm.

Rejjat Jezzár, a rocky bank of overfalls of considerable extent, commencing immediately N.E. of Saukirah, and extending along the coast for 20 miles, and off-shore 12 or 15 miles. In some parts there is a depth of 12 fathoms for 14 miles off-shore, and 26 fathoms at a distance of 18 miles. In other parts 5 and 6 fathoms are found 8 and 10 miles off-shore, while, close in, the bank is nearly dry at low-water, 2 miles from the beach. This bank is much dreaded by the Jenábí fishermen, as the rocky bottom destroys their káïr* cables. There is also a very heavy ground-swell at times, and the natives feel doubtful whether dangers exist or not. I found none under 6 fathoms, but during November, I had frequently great difficulty in keeping my station, with sometimes two anchors and 160 fathoms of chain-cable.

I had much trouble in surveying the miserable tract of coast between Saukirah and Khasháïm, as, during the N.E. monsoon I experienced, at all times, a very heavy swell, the vessel rolling her scuppers under with a whole cable on end and top-gallant masts on deck. Two or three times, indeed, she carried away all deck and bit-stoppers, straightened hook-stoppers, and took out the bowers to the clinch. Notwithstanding the weather, the vessel, tender and boats, by the resolute perseverance of my officers, accomplished this part of the survey, with about 5000 miles of cross-soundings, in less than two months, without a single accident, or even sickness, to those thus exposed and wet through from seven to ten hours a day.

This desert line of coast is scantily inhabited by a few miserable fishermen of the Jenábí tribe, who, from their mode of life, may be classed among the Ichthyophagi. They go out to fish seated on inflated skins, and it is surprising to see how well and safely they push off through a heavy surf, such as no boat could live in; and from my experience on this coast, I can with confidence state that they are seldom without such a surf as would make the landing in a ship's boat, a hazardous experiment. They catch immense numbers of sharks, and while fishing, they would, to an observer, appear to be protected by a charm, as the sharks never appear to attack their exposed limbs. They dry the fins and tail, which they carry to Jezírah, whence they are exported to Maskat by passing vessels. Poor wretches! their fate appeared

* Káïr is the fibre contained in the husk of the cocoa-nut.

a hard one. I pitied them, and made them a present of some rice and cloth, which put them in ecstacies. Rás Khashá'im is a dark, bluff, slightly projecting cliff, but certainly not sufficiently prominent to deserve the appellation of a head-land, bearing (W. ?) from Rás Jezírah (Cape Isolette).

The cliffs from Khashá'im, of a similar formation with Rás Ḳarwáú, run in an E.N.E. direction nearly 3 miles, and then turn northerly, forming a concavity in the coast, with a sandy beach called Bander Jezírah.* The cliffs are steep and inaccessible, and the soundings very bold, having 3 and 4 fathoms within a few yards.

Bander Jezírah is a small bay with a sandy beach, situated immediately westward of Rás Jezírah, or Cape Isolette,† and between the latter and the cliffs of Rás Khashá'im. In the bay, the soundings are principally mud and sand, and a vessel may anchor in any part of it. Boats from northwards frequently anchor here to procure sharks' fins. If, however, a vessel is caught with a strong S.S.W. wind, which is not unfrequent during the N.E. monsoon, she should change her position round to the N. side of the point. ‡

Cape Isolette, or Rás Jezírah, 18° 58′ 28″ N., and 57° 51′ 7″ E., has received its European name, I imagine, from its appearing like an islet when approached from the sea, while the point is in reality formed by three different capes, viz. Rás Markaz, Rás Jezírah, and Rás Khashá'im, which make one prominent cape, marked on the old charts Isolette. Rás Markaz, § which is a high bluff table-land with precipitous cliffs, I saw twice at 33 miles distance, and Rás Jezírah at 26 miles.

When first seen, Rás Jezírah presents the appearance of small hillocks; but on a nearer approach a small circular hill is observed on the summit of the cape, resembling a rude natural pillar. This, however, is not distinguishable until long after the high peak (in some points of view appearing like a saddle) is in sight from the deck.

This cape is chiefly of a limestone formation, lying in horizontal strata, of which the lowest is of a more compact structure, and in some degree hardened by the action of sea-water. The upper stratum approaches more nearly to chalk, having imbedded in it small shells and pebbles, while at the highest part of the peak or

---

* Port Island.

† More properly Cape Island. "Isolette" would be in Arabic Juzeïrah, but no such diminutive appears to be in use. It is called Madrakah by the Indians (D'Abbadie, p. 131).

‡ The position determined as the eastern extremity of the sandy beach of Jezírah Bay 1800 yards E.N.E. of the natural pillar named Tagrad Ahbak, is in 1° 58′ 28″ N. and 57° 51′ 07″ E.

§ Cape Centre.

cape, the hill is of an uniform structure, and partakes of the character of a trap formation (green stone).

From Cape Isolette a low point runs out to the N.E. 4½ miles, from the extremity of which the coast forms a concavity for a short distance, and then turns northwards to Rás Markaz.

The coast from Jezírah to Rás Ruus * has never been surveyed, and I have never run along it. The water is shoal, and the bottom very uneven, from Rás Markaz to Ghubbet Ḥashísh † (the bay and channel between Moṣeïrah and the main), which is reported by the natives to be unsafe, though hundreds of small craft, of from 40 to 50 tons, continually pass through it.

Navigators passing along the coast from Isolette northwards should be very careful, as I always experienced a strong indraught or current towards the channel, generally of 2 or 3 miles per hour, compelling me to steer two points higher than the direct course.

While coasting along Moṣeïrah I made its length 38½ miles; its N. end, Rás Jeï, in 20° 43′ 30″ N., and 58° 57′ E.; and its S. end, Rás Bír Reṣáṣ, ‡ in 20° 8′ N., 58° 38′ E. Boats were numerous, and one village was perceptible; but I did not land, my orders being to commence my survey from Isolette. The soundings on the E. side of Moṣeïrah § appeared very deep, and without danger, but northward they apparently extended a considerable distance off-shore. I had 60 fathoms 20 miles from the coast, in lat. 21° 15′ N.

The island of Moṣeïrah is of a moderate height, its loftiest peak being about 600 feet high, as far as I could judge. Its outline is uneven, broken by numerous rocky points and sandy bays. Parts of it are cultivated, and its population (of the Jenábí tribe) tolerably numerous. When I was surveying at Rás Jezírah, Moṣeïrah was governed by two sheïkhs, apparently independent of each other, but nominally tributary to his Highness the Imám of Maskat. They have many boats, and I fear are much given to plunder when they meet any party weaker than themselves.

The Arabian coast from Moṣeïrah to Rás Ruus is moderately elevated near the sea, with slightly projecting rocky points. Inland the mountains are high. The soundings along the coast are bold.

Rás Ruus is a slightly projecting but bold rocky cape, with an anchorage on its south-western side. From this cape the land takes a more easterly turn, running nearly N.E. and S.W.; and about 5 miles N.E. of the cape there is a bluff point under which vessels can find shelter from the northerly winds. Five miles to the N.E. of this bluff there is another cape called Rás el Khabbah,

* Cape Heads. Ruweïs (D'Abb.).
‡ Cape Leadwell.
† Herb or Grass Bay.
§ The goal, or object aimed at.

under which similar shelter is found. Its extreme point bears N.E. in 6 fathoms, about 600 yards off-shore. This cape is in 22° 4′ N. by observation, and on exactly the same meridian as the low sandy point of Rás el Ḥadd.

From Rás el Khabbah the line of coast runs in a N. ¼ W. direction till it reaches Rás Aḳanís, or Aḳnís,* being very bold, running out into small bluff points, with intervening, sandy bays. Its aspect is extremely sterile, but flocks of goats and sheep were seen grazing on it. The soundings are deep close in-shore.

Rás Aḳanís, or Aḳnís, on the eastern point of Arabia, bearing from the low sandy point of Rás el Ḥadd nearly S.S.E. 5 miles, is a bluff rocky point under which boats find tolerable shelter during northerly winds, in 6 fathoms, with sand and rocks, the point bearing N.E. This cape is in 22° 18′ 45″ N., and 60° 0′ 40″ E. There is a well of water W. of it, inland from the sandy beach.

Rás el Ḥadd,† the N.E. point of Arabia, is a low sandy point in 22° 23′ 30″ N., and 60° E., allowing Bombay lighthouse to be in 72° 54′ 26″ E. It has a spit running from it for nearly 300 yards. From this point the land suddenly turns, in a W.N.W. direction, towards Khór‡ Jerámah. When off Rás el Ḥadd, a fort, with a village and some trees, are seen near the pitch of the cape, called by the natives Gharkah; and W.S.W. from Rás el Ḥadd about 10 miles, and N.W. from Rás el Khabbah, is Jebel Sáffán,§ a very good mark for knowing Rás el Ḥadd.

From this low sandy cape, in a N.W. by W. direction, rocky cliffs and points extend till you open Ḥajarah Bay, which is 3 miles from the cape. The points at the entrance are rocky, but with deep water in the channel, and anchorage ground in from 10 to 20 fathoms outside. The upper part of the bay, which almost joins the village of Gharkah, is shallow.

From Ḥajarah Bay the coast continues in a north-westerly direction as far as the entrance to the fine inlet of Khór Jerámah, at the entrance of which a vessel may anchor in 8 or 9 fathoms, or proceed at once up the creek, carrying 6 and 7 fathoms; but she must keep on the left-hand side, as a shoal, with 2 or 3 fathoms on it, exists on the right-hand side of the channel, about a quarter of a mile from the entrance.

This creek is 4 miles deep, but narrow for the first mile and a half, till you open out an island, on each side of which there is a clear channel, the western one having 3, 4, and 5 fathoms, and

* Aḳanís, or aḳnís (al ḳanís?), summits—ḳanís is the crown of the head. Jinz (D'Abb.).

† Cape Boundary.

‡ Properly Khaur, *i.e.* a bay, gulf, or inlet.

§ Mount Captain. Safínah is a ship, and Saffán the captain of a ship; but Sfánát, given by M. d'Abbadie (p. 132), is put for Saffánát, 'pearls,' and probably right.

that to the eastward 6 and 7. From this island, the creek opens out to 2 miles in width, and becomes shallow at its upper part, on the S. side, the shore of which is low marshy ground, covered with wood.

The entrance to Khór Jerámah is in 22° 28′ 10″ N., 59° 53′ 30″ E. Full and change, 7 hours; rise and fall of tide, 9 feet.

Ṣúr Creek is the next on the coast; it has shallow water 10 and 12 feet off the entrance, and a bar across it, with only 2 and 3 feet water on it at low tide, deepening to 15 feet further up the channel. There is a small village on the left side of the entrance, and a larger one further up the creek on the right hand, with the fort and village of Ṣúr about 3¼ miles from the entrance. High water at full and change, 8 hours; rise and fall nearly 10 feet.

APPENDIX.

I.—*On the Winds and Weather within the Gulf of 'Aden.*

Within the Gulf of 'Aden—that is, between the meridian of Cape Guardafui and Báb el Mandeb—during the months of January, February, and March, easterly and east-north-easterly breezes may be expected, increasing from 'Aden to the Straits. The thermometer ranges from 68° to 80° Fahr., with pleasant and generally clear weather. Rain may sometimes fall, but not in any great quantity. These are the principal months for the trade, in which boats from 50 to 300 tons are engaged.

In April and May the winds are generally light, varying from E.N.E. to S.E. and S., with clear weather. I have, however, seen thick, hazy weather; and in-shore, I have experienced land breezes from 4 to 8 A.M. in those months, and on one occasion, in May, a strong westerly breeze. In April the weather becomes warmer, and the mercury rises to 80° and 86°; and in May, owing to light winds and calms, the heat is frequently intolerable, the thermometer then ranging from 84° to 95°. I have seen it rain at 'Aden three days successively in April, but in some years scarcely a shower has fallen. Heavy dews at night may always be expected.

June is a very unsettled month. The wind is uncertain, and the weather at times clear, but generally hazy. In the morning it is either calm or else there are very light airs, which sometimes increase towards noon, and blow pretty fresh from the S., occasioning a long swell on the Arabian coast. Towards the middle of the month, between Burnt Island and the Straits, westerly winds may be expected, blowing through the Straits with violence, and sometimes enabling a vessel bound to India, to reach the monsoon. During these strong westerly winds, the thermometer will fall below 80° in the morning, and not exceed 85° during the day; and the change of temperature felt by a person coming down

the Red Sea is surprising, as immediately after the Straits are passed the mercury falls 10 degrees.

July and August may be classed together as similar. A few clear days occur, but generally speaking the sky is hazy; and I have experienced a thick impenetrable fog for 2 or 3 days together.

Taking the average of 6 years' experience, out of 62 days, it blows hard from the W. and S.W. for 38 days, and during the remainder, there are moderate and fresh southerly breezes during the day, and light airs at night, with a long swell setting on the Arabian coast. The climate, owing to the strong westerly winds and rain *within* the Red Sea, is not so insufferably hot as in May and June: indeed in-shore, the mercury sometimes falls to 68° and 70° in the morning, and does not rise above 82° or 84° during the rest of the day, but the general average is between 77° and 87° Fahr. This relates to a vessel at sea, but within the town of 'Aden, the thermometer varies from 84° at sunrise to 104° with the sun past the meridian, during the westerly winds; while at the W. point, forming the entrance to its splendid harbour, the thermometer varies from 74° to 88° at the same period. This difference is caused by the wind's crossing the high mountain of Shemshán before it reaches the town of 'Aden, whereas at the W. point it meets with no obstruction. During 6 years, I never recollect seeing more than a few passing showers of rain outside of the Straits, but in general, the dew at night is heavy. In these months, a vessel may in the evening, after the southerly wind subsides, experience a severe land-squall, with thick dust, which, rising as a dense cloud, gives good time for the seamen to prepare for it.

In September the westerly wind ceases, and land and sea breezes prevail during that and the following months, with calm sultry nights, rendering the heat oppressive. The thermometer ranges from 84° to 96° Fahr. Towards the latter end of October, the nights become cooler, and at sunrise, the thermometer will sometimes stand as low as 78° and 79°. I have witnessed a few slight showers in October. From the commencement of November to the end of the year the weather gradually becomes cooler; and the N.E. monsoon, which reaches Makallah about the 5th of November, gradually increases, blowing fresh at the spring-tides: and, strange as it may appear, it is a fact that for four years successively, I observed that, from the 27th of December to the 3rd of January, the weather was generally threatening, and a gale blowing, with heavy rain on the Arabian coast. During these months the winds are principally from E. to E.N.E., with pleasant weather, and a temperature ranging between 76° and 84°.

The wind which is generally termed in India the S.W. monsoon, blows out of the Red Sea in a southerly direction varying with the line of mountains on the Arabian coast. Outside of the Straits it takes a westerly direction, but it seldom extends far beyond 'Aden. At Rás 'Aṣeïr, on the coast of Africa (commonly known as Guardafui), it blows with great violence along the coast from about N.N.E., and thence across the Gulf of 'Aden to Rás Reḥmat, a cape S. and W. of Makallah. On this line, a vessel generally enters the monsoon when proceeding from the Red Sea eastwards.

From Rás Riyámat to the Straits, the westerly and southerly winds

prevail, and a long southerly swell is experienced. The monsoon, however, forms a decided line from Rás 'Aseïr to Rás Riyámat, and thence eastwards as far as Rás el Ḥadd, blowing with more or less violence according to the month and the moon's age.

II.—*On the Winds and Weather likely to be experienced beyond the Gulf of 'Aden, along the line of the Arabian Coast as far as Rás el Ḥadd.*

In December, January, February and for 15 days in March, the N.E. monsoon blows along the line of coast, changing according to the inflection of the land; while, at a distance from the land, it blows from N.E. to E. by S., with clear, pleasant weather, free from squalls and rain. This description will answer for every part of the coast above alluded to, with the exception of that part which lies between Rás Seger and Rás Ḳarwáú; and more especially with the exception of the extensive Bay of Curia Muria, which is so entirely different from other parts of the coast that I have judged it best to give a Table of the weather during the tedious, trying time that I was employed in making a trigonometrical survey of it. The sudden changes of the winds, and the great violence with which they blew, frequently rendered the position of the surveying-vessel which I commanded dangerous; nor could she have been extricated but for the activity of the officers and crew, and her good supply of ground-tackle (4 chains of 125 fathoms each, and 6 anchors out-board). It is also necessary to observe that these changes give no warning; owing to which I was compelled, for the safety of the vessel, to secure her 30 miles from the islands, while I surveyed them in my boats: and it was not an uncommon occurrence for boats to be manned and ready, when, from a clear, serene sky, a light arched cloud would appear over the table cliffs surrounding the Bay, and in five minutes (just time enough to run the boats up) we could not see 10 yards from us, and it blew a perfect gale from the northward. These winds are termed by the Arabs Balát, or Belát, and are much dreaded: but what surprised me more than these land-winds, were the frequent and heavy gales from S.S.W. during February and March, blowing for 6 days together. In one of these, after the close of the survey of the islands, I was overtaken, when surveying round the Bay on a dead lee-shore, having parted two bowers. My night-orders were to run the staysail up if she parted, and steer for the sandy beach on the N.W. side of the Bay, the only way to save the crew, as the vessel would never work to windward in blowing weather.

I now subjoin the following Table of the weather:—

SYNOPTICAL TABLE of the Weather experienced off the Curia Muria Islands in 1835 and 1836.

Date.	Winds.	Date.	Winds.
Dec.		Feb.	
14	Light E.N.E. to E.S.E.	1	E. and moderate.
15	Light S.E.	2	E.N.E. and light.
16	Light S.E. and S.	3–5	Fresh gale N. to N.W.
17, 18	Hard gale from N. to N.W.	6	Moderate E.N.E. breezes.
19	Fresh W.N.W.*	7	N.E. to E.S.E. moderate.
20	Fresh gale N.W. to N.	8, 9	Fresh gale N. to N.W.
21, 22	Moderate A.M., light P.M. N.	10	Moderate N.N.E. to E.N.E.
23, 24	Light E.N.E.	11	Fresh southerly gale to S.E. by S.
25–27	Light airs and calms.	12–14	S. to S.W. by S.; fresh gale.
28	A.M. N., P.M. S.E.	15	Calm light airs, clear sky.
29, 30	Light E.N.E. and S.E.	16–18	Hard gale N. to N.W.
31	Calm.	19, 20	S.S.E. to S.W. fresh.
Jan.		21	Moderate gale at S.S.W.
1–5	Hard gale N. to N.W.	22, 23	N. moderate gale.
6	Fresh A.M., P.M. light airs.	24	Gale at S.S.W.; squalls and rain.
7–11	Light land and sea breezes.	25, 26	Hard gale S.S.W.†
12–17	Moderate from N.E. to E.S.E.	27	Moderate S.S.W.
18–23	A furious *belát* from N. to W.N.W.	28	S. by E. to S.S.W. moderating.
24	Moderate gale, P.M. light airs.	29	Moderate.
25–27	Blowing a gale from N. to W.N.W.	March 1	S.E. by E. to S.; moderate.
28	Moderate N.E.	2	E.S.E. to S.S.E.
29	N.E. to N. moderate.	3	Fresh S.
30	N.N.E. light.	4	Light airs from N.N.E. to E.
31	N.E. moderate.		

* Reliance whaler wrecked during the night, crew saved by me.
† Vessel parted two bowers.

These northerly gales do not extend far southwards, but appear to be confined to the limits above-mentioned: when clear of Curia Muria Bay, and past Rás Nús, they blow along the line of coast, being influenced by the high range of the Subḥán mountains towards Morbát, in which anchorage the water is smooth from the wind's blowing off-shore: but through the deep valley of Dhofár it again blows off-shore with great violence.

The southerly breezes appear also confined to that part of the Arabian coast, as to the southward they are seldom felt, and the S.W. monsoon does not reach Soḳoṭrah before the 1st or 10th of May. For three years successively, it reached Soḳoṭrah the 4th of May, with heavy rain on the 6th and 9th: so that navigators coming from the Gulf towards the Red Sea must not take the S.S.W. winds they may fall in with in February or March for the S.W. monsoon, as has been the case; and in consequence of such a mistake, a fast-sailing vessel, to my knowledge, bore up for Bombay. From the 15th of March till April, the winds are light and variable along the whole line of coast, and the weather warm: land

and sea breezes then enable the crowd of boats from Ṣúr and Moṣeïrah to run back with their cargoes of shark-fins, the produce of some months' toil, to the southward. The sky is then generally cloudless, and the atmosphere light and pure, with heavy night-dews.

May is a doubtful month; for if the monsoon is early, it may blow hard from the S.W. At times, however, moderate weather is experienced.

During June, July and August, the S.W. monsoon is in its full strength, and at times blows very hard along the whole line of coast, particularly in July. In the early part of June, large boats run from the Red Sea to the Persian Gulph; and this voyage, which is accomplished after the first blast of the monsoon, is termed the "tadhbír." * They also set sail at the latter end of August, and run up during the "degmáni,"† or after the strength of the monsoon is over.

During the month of September the winds are moderate from the W. and S., and the weather is warm.

In October light uncertain breezes and calms are common; land and sometimes sea-breezes when in-shore; and at night cloudy with passing showers of rain.

In November I have found the N.E. monsoon generally reach the coast of Arabia between the 18th and 20th; after which the winds blow along the coast—that is, from the N. and E.; but prior to the monsoon, the weather is the same as in October, and also rainy.

On concluding this subject, I would observe that the experience of several years along this coast has taught me not to place implicit confidence on the regularity of the seasons, as I have frequently during the same month, in different years, experienced exactly opposite winds. In March, 1835, I was twenty days in passing from the Curia Muria islands to Makallah, with southerly and westerly winds, and adverse currents: and in March, 1836, I was only three days working the same passage, having the N.E. monsoon with me. Further, I have observed, that at all seasons, and on all parts of the coasts of Arabia, particularly when the land is low, the wind is influenced more or less by the sun's position, and the changes in the state of the atmosphere towards the sea; and even in strong breezes the same influence prevails to a certain degree.

III.—*Remarks on the Currents on the Ṣómálí and Arabian Coasts.*

To the currents in the Gulf of 'Aden and on the Arabian coasts, I have devoted considerable time and attention, with but little satisfaction to myself, and I fear to little purpose. I have, however, traced on an outline-chart, the currents I experienced in different years and seasons, which may serve to put the navigator on his guard, and show him the necessity of nocturnal as well as diurnal observations.

My endeavours to ascertain the cause of such currents, and to reduce them to principles which might guide others, entirely failed; nor am I at this moment satisfied as to how the currents are set in motion—whe-

* See Note, p. 125.

† Probably dekmáni, "the season of mischief"—if so, *ba'd ed dekmáni* would be, "after the violence of the monsoon is past."

ther by submarine impulse—by a change in the component parts of the water—by different degrees of evaporation—or by the pressure of prevailing winds. I am, however, more inclined to believe that the latter is the principal cause, and that it is the pressure of the water caused by the prevailing monsoons that causes the strong in-shore current. But this theory will apply merely to the coast-current: whereas at sea I have experienced a current running in circles or bands of 60 miles in extent; and not unfrequently have I borne up and set a topmast studding-sail with a foul wind, in order to escape a contrary current; and when by observation, I have found the vessel in another stream, or out of the former current, I have hauled to the wind again, and by such means have beaten fast sailers who were working up in-shore.

It is an established fact that the water is raised to a higher level in the northern parts of the Red Sea during December, January, February and March, from the force of the strong southerly winds that then blow up that sea; and that in July, August and September, it is several feet lower, from the force of the strong N.N.W. winds blowing down towards the Straits. This fact is proved by the "Durable" shoal, which, though situated in the middle of the sea, is at one time sufficiently dry to have a tent pitched upon it, and at another season is covered with water. The same difference of elevation may be also observed on the coral reefs near Jiddah.

On the Arabian coast, from Rás Isolette to the Straits of Báb-el Mandeb, in-shore, during the strength of the N.E. monsoon, the current runs with the wind. In March and April (and sometimes as early as February) this current changes, and it flows towards Isolette during the S.W. monsoon. In April I have measured the current with the patent log, and the vessel at anchor, and found it setting up the coast at the rate of 2 miles per hour, and much faster off the Palinurus Shoal. In May, June and July, I have also measured the current at different stations on the Arabian side, between 'Aden and the Straits, when at anchor in from 6 to 10 fathoms, and found it 2 and 2½ miles E.N.E., varying in rapidity with the strength of the wind. During the N.E. monsoon it sets with equal velocity into the Red Sea. This would materially tend to prove the effect of pressure: but, strange as it ap pears, though the wind is the same on the Ṣómálí* coast, or the S. side of the Gulf of 'Aden, during the N.E. monsoon, the currents are sometimes running in a precisely contrary direction, without any apparent cause. This led me at one time, to imagine that the narrow entrance to the large body of water within the Red Sea (which is, moreover, reduced by the islands called the Brothers) forms a kind of barrier or point of deflection; that the current from the Mozambique Channel rushing past Rás 'Aṣeïr at 3 or 4 miles per hour, bifurcates at that point: one branch going northwards; while the other, diminished in rapidity by the absence

* This current on the Ṣómálí coast in the N.E. monsoon is very uncertain. The natives say, that when the current on the Arabian coast is running one way, that on the Ṣómálí coast is generally opposite. In the N.E. monsoon vessels have met strong northerly currents when to the northward, or rather when Rás 'Aṣeïr was open, which, as soon as the Cape was shut in, changed to the westward. Again, currents frequently set to the eastward, between Zeïla' and Berberah, during the N.E. monsoon.

of the strong southerly wind, sweeps along westwards as far as the Straits—when, being influenced by the current out of the Red Sea, it turns up eastwards, gradually recovering its former velocity, as it again comes under the influence of the monsoon. While the two coasts forming the Gulf of 'Aden have their own currents, the central part of the sea has others running in every direction, except during strong breezes, when pressure undoubtedly influences the whole. Thus, for instance, a vessel in July, crossing over from Burnt Island with a strong westerly breeze, will find the current change from W. to N.W., N., N.E, E.N.E., increasing in strength as she approaches the Arabian coast, and will probably be prevented from fetching it within 20 miles of 'Aden, under a press of canvass. During the N.E. monsoon, of course, a contrary rule prevails; and a vessel leaving Berberah for 'Aden will work up some 15 or 20 miles east of Siyárah, before she ventures to stretch across to the Arabian coast.

A vessel running up her northing, on the E. side of the African coast, during the S.W. monsoon, and wishing to stand for 'Aden or the Red Sea, should be very careful for the last two or three degrees, as N.N.E. and N.E. currents will be met with. I have found a current of 3 or 4 miles an hour, which, as you round the Cape, sweeps more eastward towards Soḳoṭrah; in a sailing vessel, therefore, the Cape should be rounded close, otherwise she may lose her passage, as I have known to be done by a fast-sailing vessel.

Northwards of Ṭahl Far'ún and the Brothers, from June to September, I have always experienced a strong N. or N.E. current, which renders it difficult to fetch the anchorages on the N. side of Soḳoṭrah. In July, when in the latitude of the N. side of Soḳoṭrah, and only 1½ degree W. of Rás 'Aseïr, I have had light airs and calms, with a current 58 miles due S., while in previous years, and in almost the same position, I have found a N. current, which gradually drew eastwards as the vessel stood to the S.E.

On the N. side of Soḳoṭrah, in March and April, I invariably found a strong W. current, so much so, that I have known a fast 10-gun brig take twenty days to make Tamarídah from Ḳolonsír, and she then succeeded only by standing over to the Arabian coast, and working up along it eastwards before she stood across; and I was obliged to anchor my vessel at the first place where I could obtain anchorage-ground, and proceed in one of my boats to Tamarídah, throughout March, owing to the light airs and strong currents.

The true cause, therefore, of these currents appears to me to be principally the pressure occasioned by the prevailing monsoons, increasing and decreasing in the same ratio as the winds, and influenced in some degree by the moon's age, and consequent change of the tides which are by no means regular.

IV.—*On the Variation of the Compass.*

There can be but little doubt that the westerly variation is decreasing along the coast of Arabia, as previous navigators, touching on the parts of the coast that I have attempted to describe, have made the variation considerably more to the W. than I found it to be, and I am unwilling

to doubt the correctness of their observations. The excellent instruments with which I observed, and the number of my observations, enable me to assert with confidence that the variation was ascertained with great correctness during my survey of the coast.

The variation from Isolette to the Straits varied from 3° to 5° 45′ W., increasing towards the Straits. In some places I found the needle influenced by the metallic veins in the rocks, among which I may mention Bá-l Ḥáff,* Maḳáṭín, Jebel Ḥadíd† at 'Aden, and Báb-el-Mandeb. At the three former places, this influence was trivial, but on the Peak of Minhalí, or Rás Báb-el-Mandeb and Perím‡ Island, or Meyún, it was much greater. The following observations taken at fixed stations will show:—

Observers.	Number of Observations.	At what Place.	Results.
			° ′ ″
Lieut. Sanders and myself	72, morning and evening.	On land by jetty at Perím	5 32 0 W.
Myself	8, morning	At north end of fundamental base on sand	5 42 0 „
Lieut. Sanders .	6, morning	At second corroborative base on main to the eastward of Minhalí	5 40 0 „
Myself	28, morning and evening	Rás Sheïkh Sa'íd, a low, black point N. of Fisher's Rock, on sand	5 43 0 „
Lieut. Sanders .	8, morning	Same place	5 50 0 „
Mr. Cruttenden .	8, morning	Same place	5 47 0 „
	130		5 42 20 W.

THEODOLITE BEARINGS AT DIFFERENT STATIONS.

Place.	Observer.	Object.	Magnetic Bearings.
			° ′ ″
At Pyramid on Perím Island	Myself . .	Minhalí Peak	N. 68 24 0 E.
		High Brother Peak	S. 7 36 30 W.
High Brother . . .	Lieut. Sanders	Pyramid on Perím	N. 5 21½ 0 E.
		Minhalí Peak	N. 19 31 0 E.
Minhalí Peak Pyramid	Lieut. Sanders	High Brother	S. 6 2 0 W.
		Pyramid on Perím	S. 52 34 0 W.

Westerly variation observed at Perím pyramid by myself, 11 observations . . . . . } 7 58 W.

N. 68 24½ E. High part of Minhalí. N. 5 21 30 E. High Brother.
S. 52 34 W. Perím Pyramid. S. 7 36 30 W. Perím Pyramid.

15 50 difference of cross-bearings. 2 15 0 difference agreeably with difference of Azimuth.

* Bá-l-Ḥáff, Father Ḥáff, for Abá-l-Ḥáff.

† Mount Iron.

‡ These names are evidently Persian, as the Arabs have no *P*. Berím is the name of a town in Ḥaḍramaut, and Meyún is the common pronunciation of *Miyán*, "*Middle*," in Persian. Berím is probably the true name of the island.

On High Brother in the Bay 500 fathoms N. 6 W. of Peak.	At what Place.	By what Means.	Result.
True bearing of Minhalí pyramid, by 14 observations with sextant and false horizon, N. 14 9½ E. 5 42	On board, at anchor, under the Cape on the fore-castle.	Magnetic bearings by a prismatic compass, and true bearings to an object. Head, N.N.W.	5 20 W.
Which obs., N. 19 51½ E. magnetic, is about the difference of station and the magnetic bearings at the Peak of High Brother: at the station it agreed, proving no attraction at the Brother.	On board, at anchor, at the topmast head.	By prismatic compass and true bearings I took it aloft to see whether the metal about the decks influenced the needle, which in some places it did considerably.	5 30 „

The result of 72 observations on the sandy beach at Perím differing from 11 observations taken on the summit, convinced me that some local attraction existed, and consequently I tried various ways to ascertain the truth. I took 28 observations on the Point of Rás Sheïkh 'Alí, on the sand, clear of all metallic influence. These observations agreeing with those taken on the sandy beach at Perím, and with others taken at the second corroborative base to the eastward of Minhalí, led me to believe that the attraction arose from minerals in the stones of which the pyramid is built, the specific gravity of which is 2·688. I then observed magnetic and true bearings on Minhalí Peak, as likewise on the Peak of the High Brother, and of Rás Síján,* as well as on board, and the result is shown in the table, proving local attraction on the summit of Perím, at the Pyramid, and in a still greater degree at the Peak of Minhalí, the specific gravity of the component rock of which is 2·578. A specimen of the latter, weighing 17 oz., broken off from the summit, attracted the needle, *when close*, 10, 12 and 13 degrees, according to the position in which it was held. The vertical angle of the needle was very much changed, and the rock apparently affected its dip or depression more when the needle was caused by the influence of attraction to diverge E. or W. of the true N.

The variation determined by the squadron under Sir Home Popham, in 1800, at the extreme of the Straits of Báb-el-Mandeb, was 9° 20′ W., which gives a diminution of westerly variation of 6′ 14″ annually, rather large I admit; but the proof of diminution is, that the westerly variation formerly found to exist at Perím, is exactly the same as that at Suez, ascertained by late observations.

* Cape Peak: Síján is the plural of sáj, a teak-tree. T'héka, or téka, is the true Indian name, represented by our word teak, which was sounded like *take* when first used by English writers. "It is called teke by the Portuguese," says Dr. Fryer (Travels, p. 178), "and sogwan [ságwan] by the Moors."

V.—*Remarks on the Navigation of the Gulf of 'Aden, and along the S. and E. Coasts of Arabia, with advice as to the best way of working through the Straits of Báb-el-Mandeb against strong S.E. and N.W. winds.*

In the first place I would observe, that the entrance into the Red Sea has generally been divided by seamen into the small and large Straits. I will, however, describe them as the North (small), South, and Centre (large) Straits, as there are decidedly three channels.

The North, or small Strait, is between the rocky island of Perím (Meyún) and Rás Báb-el-Mandeb, on which rises the Peak of Minhalí, but, more correctly I should say, Pilot Rock, or Jezírat Ḥasan,* which channel is about 2800 yards broad between the nearest points, increasing in breadth at the entrance E. or W.

In this Strait there is no danger, but a spit of broken ground runs out a short way from the N. side of Perím, and another from Pilot Rock to the low black point N.W. of it. The discolouration of the water distinctly points out the position of both. The soundings are bold and irregular in the centre and over on the Perím side; but on the N. side to the N.W. of Pilot Rock regular, with sandy bottom. The soundings in the North Straits are from 8 to 12 and 16 fathoms. The tides are very irregular, both in time and strength. Sometimes *in the centre* I have experienced very little ebb, while at others, particularly at night on the full and change of the moon, the tide runs at the rate of 4 knots per hour, creating a strong ripple when opposed to the wind, and rendering a dull, heavy vessel almost unmanageable.

It is high water at twelve hours. Rise and fall of tide 7 feet, with anchoring-ground in every part.

The Large (or Centre) Straits are formed by the channel between the islands called the Brothers, or Jezírát-es-Sab'ah,† and the S. side of Perím, and are from 9 to 10 miles broad, and perfectly safe. The soundings towards the Brothers are deep, having, on the true meridian between the High Brothers and the W. point of Perím harbour, 178 and 185 fathoms, 3 miles distant from the former, and the same to the eastward, with deep water close to them; but towards the West Brother and Jebel Síján it is shoaler, without danger. On the Perím side of the channel a bank of soundings projects to the distance of 3 miles off the island, having 40 to 60 fathoms on its outer edge, and gradually shoaling to 20 fathoms close to the island. This bank is connected with that running along the Arabian coast, and from which you deepen suddenly into 150 and 180 fathoms. The greatest depth I found in the large or centre Straits, was 185 fathoms.

The Southern Straits are formed between Jebel Síján, on the Abyssinian coast, and the Brothers. The narrowest part of the channel is 3½ miles broad, and lies between Síján and the West Brother.

The soundings are pretty regular, having 8 to 12 and 15 fathoms all over, with good anchorage-ground. The only danger exists on the Abyssinian shore, which has a rocky reef along it, in some places ex-

---

* Isle of Ḥasan.

† The Seven Islands.

tending $1\frac{1}{4}$ mile from the beach, on which you suddenly shoal from 5 or 6 fathoms.

The currents or tides are strong and irregular, setting with the line of coast. High water 11h. 40m. full and change: the flood tide rising suddenly 1 or 2 feet. Ten fathoms is a good line to avoid the shore reef.

Of course, with a fair wind in passing through the Straits, the nearest course to the destined port would be chosen by the navigator. The northerly or small Straits would, therefore, be generally preferred, and any remarks for the same are unnecessary, as a mid-channel course will take a vessel clear of all dangers; but these Straits having, even of late years, been frequently mistaken, I deemed it advisable (to prevent any recurrence of similar errors) to etch, on the trigonometrical survey of them, a correct outline of Báb-el-Mandeb Peak and Perím, as seen when a ship is making the Straits from the eastward. From this sketch it will be perceived, that from the vessel a small peak will first be seen at a distance of from 25 to 30 miles (dependent, of course, on the state of the atmosphere). On nearing it, others gradually rise to the eye till they become united. At the distance of from 15 to 20 miles, Perím will be seen from the deck to the S. of the Peak first seen. Perím, on rising above the horizon, appears low, gradually sloping from its centre, which is 230 feet high, to its extremes. How mistakes have occurred, and do so frequently happen, I cannot conceive. It is, however, only necessary to remind the stranger that the outline of Perím is even and unbroken, and sloping gradually, whereas the Cape has many irregularities, with the Peak of Minhalí, or, as it is sometimes called, Quoin Hill, which is elevated above the sea nearly 1000 feet, and therefore cannot be mistaken.

If a vessel has to work through with either a south-easterly or north-westerly wind, I consider the small Straits as preferable, since there is anchoring-ground all through them, and good anchorage on either side of the Cape, in the event of accident or failure: the stream, also, is more certain. With strong breezes in the N.E. monsoon I have been detained 2 or 3 days; and I have known vessels bear up 6 or 7 days successively, after trying both large and small straits. I invariably got through best at night, owing to the tide's running stronger. With strong north-westers I have been equally detained, owing to the uncertainty of the tides, which are influenced by the strength of the wind. Indeed, after a fresh north-wester I have known the flood in the channel run for 16 hours, and *vice versâ*, after a south-easter, the water at the same time ebbing and flowing on the beach with regularity. My experience teaches me that the certainty of currents or tides in the fair way depends entirely on the preceding weather, and a navigator may make his calculations accordingly.

I have known vessels endeavour to beat through the large Straits, owing to their having more sea-room for night-work; and, though carrying a press of canvas, even to the springing of a lower and topsail-yard, splitting topsails, &c., they have not succeeded. One instance, in particular, came under my knowledge of a fast sailing man-of-war's being compelled to bear up, after ineffectually striving for 10 days to

beat up into the Red Sea. The cause of this was, that sufficient care was not taken to ascertain in which channel she gained most. In the large Straits the currents are conflicting and unsteady, generally running in circles, and rendering it almost impossible for a dull sailer to get through.

Vessels lying at Mokhá during the strong southerly gales which blow with violence in December, January and February, should never attempt to work down to the Straits; as, however well manned and equipped she might be, a fast vessel would tear herself to pieces, and probably carry away some spars. She should wait for a lull, and then work tides, day and night, anchoring close in-shore with the flood. When she reaches the North Straits she should anchor close under the lee of Pilot Rock, so as to have the whole night-ebb to work through with, to accomplish which, activity, seamanship, and a good eye are the only requisites. I only once failed, after weathering the Rock at 2 A.M., owing to my splitting a double-reefed main-topsail, foresail and main-top-gallant-sail in a strong gust. A vessel entering the Straits from the eastward with a north-wester has only to work night or day in soundings off the Arabian shore. At night the soundings are an excellent guide, and, working in between 15 and 35 fathoms, a vessel cannot miss the small Straits, the edge of the bank off-shore being very precipitous. It is only to be regretted that all commanders, who wish to enter the Red Sea, do not provide themselves with the Trigonometrical Survey of the entrance to it, executed by myself and my officers on a large scale for the benefit of navigation, and sent home by me for publication when I was draughtsman to the Indian Navy.

I consider the North Straits, therefore, as decidedly the best to work in, and the Arabian side preferable. As an additional proof of this I may mention that, in July, 1818, two sister ships-of-war, the Mercury and Aurora, mounting each fourteen guns, left 'Aden for Mokhá. They had very heavy weather on the passage, and parted company: the fastest sailer trying the Abyssinian shore, while the other, keeping over to the Arabian coast, worked up without difficulty, and beat her consort 7 days in a distance of 140 miles.

Vessels working along the Arabian shore between 'Aden and the Straits, during the months of June, July and August, will frequently experience thick, hazy weather, with great change of temperature. I have known it vary in 24 hours, from 89° to 64° (Fahrenheit), with slight showers of rain, while the barometer was but little altered. If the wind is blowing from N.N.W. to N.W., frequent gusts may be looked for, especially in-shore; and, when the weather has been quite moderate, I have known very fresh southerly winds set in suddenly. The breezes generally increase from sunset to midnight, when they fall light, with a heavy, long, southerly swell. During the months of June, July and August a vessel in the Gulf of 'Aden, should have good sails bent, and take care to be on the bank of soundings in proper time, so that she can anchor in from 10 to 20 fathoms should it fall calm, or the current be against her. On the Abyssinian coast, during these months, the necessity of having good sails and rigging is equally great, as the

gusts off-shore are, at times, very violent, with (strange to say) a swell, frequently setting along-shore from the W., which causes a very heavy surf on the beach.

With proper precaution there is little danger. A good look-out, the lead and observations by night are requisite, and should be carefully attended to. The most dangerous part of the coast is the reefs off Zeïla', and the bank of broken ground running off-shore for 2, 3, and 4 miles between Rás 'Arah, or Cape St. Anthony, and Jebel Ján.* On this there are several shoal-patches, with $1\frac{1}{2}$ to 2 and 4 fathoms on them at low water, and several vessels have been wrecked upon them. A vessel navigating between these two headlands of 'Arah and Ján, should not come under 20 fathoms at night, and 15 in the day-time, as the water shoals so suddenly that a vessel, with good headway on her, after getting a cast of 15 fathoms at night, would hardly have time to pass along the lead again before she would be in the broken ground. In the day time, the edge of the reef is perceptible between Isolette and the entrance to the Red Sea, so that there is little danger, and all that does exist, has been pointed out in my Memoir of this Survey, Parts I. and II. It remains for me, therefore, only to give my opinion as to the best manner of proceeding from the Red Sea eastwards.

During December, January, February and March trading-vessels arrive from the eastward, carrying a light or strong monsoon, as the case may be; and very few, if any, except square-rigged vessels attempt the passage to India, it being generally so long and tedious. I have always experienced the greatest advantage in paying constant attention to the currents which, during December, January and February, usually set along the coast in a W.S.W. direction. If I found the current in-shore strong against me, I always stood out to sea for 60 or 80 miles, availing myself of all changes of wind. If the winds were light, I preferred being in-shore, so as to avail myself of tides and land-winds, but only when the current was not strong to the W.S.W. I have known one vessel fortunate enough to find a S.S.W. breeze off the Curia Muria Islands, and make the passage to Bombay even in these months in 21, while other ships were 90 days. In March and April, I found I could do better in-shore, as the currents are favourable, and the winds light and variable. In May, I should recommend a ship to work in-shore as far as Farṭàk, and thence take the open sea if bound to India, or keep well off-shore if wishing to make the Persian Gulf.

September and October are tedious, trying months for making a passage either to or from the Red Sea, as the winds are so very light and uncertain. I have tried passages both in and off shore, but I found it the best plan to work according to the currents, and if I found land and sea breezes to avail myself of them, and anchor when requisite.

VI.—*On Salt's Rocks.*

Owing to the Bengal steamer's having, in the night, nearly run on Tahl Far'ún,† or Salt's Rock, from their positions being incorrectly

* Perhaps Kán; the writing of the MS. is doubtful. In the map (Geogr. Jour., ix. 125, 127) it is Ján.

† The watering-place of Pharao. Fir'aun is commonly pronounced Far'ún.

laid down, I determined to fix its true place, and left Ḳolonsír in order to obtain sights for this purpose, and, by observations made the next day on Salt's Rock, I found its exact place.

Having, in my run, discovered that the rocks are considerably more to the westward than previously laid down, and that 'Abdu-l Kúrí, which was distinctly visible, must also be to the westward, and thereby reduce the passage between Cape Guardafui and the latter—an important matter to our steamers and other vessels; and after fixing the position of the rocks, I took observations in order to determine the variation, and took true bearings to 'Abdu-l Kúrí, the result of which at once proves what I have above asserted—that 'Abdu-l Kúrí is closer to the N.E. point of Africa than was hitherto supposed.

The following are the results on Ṭaḥl Far'ún:—

OBSERVERS.

Lieutenant (now Commander) Sanders, with Captain Haines's sextant, by Troughton:—

Meridional altitude 122° 26′ 33″, lat. 12° 25′ 46″.3.

Captain S. B. Haines, with the Honourable Company's sextant, by Dollond; the best sextant and strongest power in the ship:—

Meridional altitude 122° 24′ 45″, lat. 12° 25′ 50″.$\frac{25}{100}$.

Lieutenant Rennie, Honourable Company's sextant, by Gilbert:—

Meridional altitude 122° 28′ 35″, lat. 12° 25′ 45″ N.

Longitude of Ḳolonsír, by trigonometric and several chronometric measurements with 6 and 8 chronometers, allowing the Bombay Lighthouse to be 72° 54′ 26″ E.:—

Is Ḳolonsír 53° 34′ 23″ E. Sight Station.

Honourable Company's chronometers, 298, M'Cabe	1°	21′	55″	
,, 216, ,,	1	21	48	
,, Baird	1	22	09	
,, ,,	1	21	58	
Captain Haines's chronometers, by Frodsham	1	21	22	
,, Young	1	21	48	
Mean	1	21	50	E. of Ṭaḥl Far'ún.
Ḳolonsír long.				53° 34′ 23″ E.
				1 21 50
Long. of Salt's Rock				52 12 33
Variation				2 50 0

From Sight Station on Ṭaḥl Far'ún, or Salt's Rock, the following bearings and angles were taken:—

	True.
E. bluff of 'Abdu-l Kúrí	S. 35° 22′ E.
W. extreme of island to the right of ditto . . .	∠ 57 12
True bearing W. extreme of ditto	S. 21 50 W.
Haycock Hill, right of East Bluff	42 25
True bearing of Haycock Hill	S. 7 03 W.
East Bluff, right E. extreme of 'Abdu-l Kúrí . .	∠ 8 20
True bearing of E. extreme of ditto	S. 43 42 E.

'Abdu-l Kúrí is a long and moderately-elevated island, in lat. between 12° 9′ and 12° 12′ N., which will, by true bearing from the fixed position on Ṭaḥl Far'ún, give the long. of the E. and W. ends thus:—

Ṭaḥl Far'ún	52°	12′	33″
S. 21° 50′ W. 16° long.	0	6	20
Long. of the W. end of 'Abdu-l Kúrí . . .	52	6	13
S. 43° 22′ W. 20° long.	0	15	30
Long. of the E. end of 'Abdu-l Kúrí . . .	52	28	3

By which calculation, Cape Guardafui (allowed as proved), by the survey of the Palinurus, in 51° 20′ 45″ E., and 11° 50′ 45″ N., will bear, from the W. end of 'Abdu-l Kúrí, S. 66½ W. only 48 miles.

Salt's Rocks extend, in a N.E. and S.W. direction, about 2000 yards, and in breadth do not exceed 200 or 300 yards. They are divided, to the westward of the centre, by a narrow and shallow rocky channel.

The eastern rock is the largest, and has one large peak, elevated about 400 feet above the sea, and two or three smaller ones. The western rock has one peak of equal height, and one smaller one. It is composed of granite, and from all points of view has a white appearance, from the multitudes of birds (gannets) that frequent these rocks. Not a vestige of vegetation of any kind was found on them, and their only occupants were birds, vermin and lizards.

The Ṭaḥl Far'ún rocks appear, in different points of view, to have two, three, four, and five peaks, and in the day-time they can be seen 7 or 8 leagues off; but at night, though clear, I could not discover them with a good night-glass at the distance of 8 miles.

I had not sufficient time to make a minute survey of these islands, but while on Ṭaḥl Far'ún I dispatched my quarter-cutters in different directions in order to take soundings.

Northwards the bank does not extend far from the rocks, but to the N.W. had 33 fathoms 2 miles off:—

To the W.S.W. . . .	20	fathoms	2	miles off.
„ S.S.E. . . .	15	„	3	„
„ S.E.	11	„	2¼	„
„ E.S.E. . . .	9	„	1	„

And within these limits overfalls of 2, 3, 4, and 6 fathoms, at a cast, rocky bottom. I do not know whether any danger exists between 'Abdu-l Kúrí and Ṭaḥl Far'ún, but recommend caution.

In the night, when 8 miles off the rocks, I was suddenly disturbed by hearing Lieutenant Jardine, the officer of the watch, call to the quarter-master, and tell him to jump into the chains, and take a cast of the lead: no bottom was found, so I directed the deep sea-lead to be hove, but, finding no bottom at 80 fathoms, and the ship being apparently on a bank with discoloured water, I examined the sea-water with a microscope, and found it full of small animalcula, in shape resembling limpets, of a white colour, which of course at once accounted for the white appearance of the water in a clear, star-light night: this appearance was similar to muddy water in 5 and 6 fathoms.

Having experienced a similar white appearance on the coast frequently, and tried the same experiment, I merely mention it that navigators may not give notice of a supposed danger when the experiment of sounding will prove that there is none.

'*Aden, May 4th*, 1844.

III.—*Account of* Governor G. GREY's *Exploratory Journey along the South-Eastern Sea-board of South Australia.* By Mr. THOS. BURR, Dep. Surv.-Gen. Communicated by Lord STANLEY.

Governor Grey's Letter to Lord Stanley.

Adelaide, June 22, 1844.

MY LORD,—I have the honor to report, that towards the end of the month of April last, I left Adelaide for the purpose of exploring the south-eastern portions of this province, which abut upon the territory of New South Wales.

This part of South Australia has been hitherto almost unknown, having been only traversed in one direction by overland parties; and as the line of route which they had always pursued, passed through a country for the most part of a very unpromising character, it was very generally imagined that the south-eastern portions of the province offered little inducement to settlers, and that there was little probability of any continuous line of settlements being established between South Australia and New South Wales.

I hoped, however, that a minute examination of this country, and more especially of those portions of it which were yet unknown, might show that these impressions were without foundation; and in order that the exploration which I was about to undertake might be rendered as effective as possible, I took with me Mr. Bonney (the Commissioner of Public Lands), a gentleman of much enterprise and ability, and who was the original discoverer of the overland route from Port Phillip to South Australia; and also the Deputy Surveyor-General, Mr. Burr, with whose